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PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : A61M 37/00, A61N 1/32 — A1

(11) International Publication Number: WO 97/04832

(43) International Publication Date: 13 February 1997 (13.02.97)

(21) International Application Number: PCT/US96/12244

(22) International Filing Date: 25 July 1996 (25.07.96)

(30) Priority Data:

507,060	25 July 1995 (25.07.95)	US
511,583	4 August 1995 (04.08.95)	US
574,377	18 December 1995 (18.12.95)	US
626,021	1 April 1996 (01.04.96)	US

(71) Applicant: MASSACHUSETTS INSTITUTE OF TECHNOLOGY [US/US]; 77 Massachusetts Avenue, Cambridge, MA 02139 (US).

(72) Inventors: MITRAGOTRI, Samir, S.; Number 23, 402 Highland Avenue, Somerville, MA 02138 (US). PLIQUETT, Uwe; Gohliser Strasse 14, D-04105 Leipzig (DE). JOHNSON, Mark, E.; 33 Brainerd Road, Allston, MA 02134 (US). PISHKO, Michael; 38 Rawson Road, Arlington, MA 02174 (US). KOST, Joseph; 54 Hshita Street, 84965 Omer (IL). LANGER, Robert, S.; 77 Lombard Street, Newton, MA 02158 (US). WEAVER, James, C.; 248 Old Lancaster Road, Sudbury, MA 01776 (US). BLANKSCHTEIN, Daniel; Apartment 5, 26 Egmont Street, Brookline, MA 02146 (US).

(74) Agent: PABST, Patrea, L.; Arnall Golden & Gregory, 2800 One Atlantic Center, 1201 West Peachtree Street, Atlanta, GA 30309-3450 (US).

(81) Designated States: AU, CA, JP, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

Published

With international search report.

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: ENHANCED TRANSDERMAL TRANSPORT USING ULTRASOUND

(57) Abstract

Several means for enhancing transdermal transport of drugs and analytes have been developed, including the use of low frequence ultrasound, chemical modifiers of permeability and/or cavitation, iontophoresis and/or electroporation (electric fields), pressure and/or vacuum (physical enhancers), and magnetic force fields. Applications of low-frequency (approximately 20 KHz to 1 MHz) ultrasound enhances transdermal transport of drugs and measurements of the concentration of analytes in body fluids such as blood or lymph. Delivery can be further enhanced or controlled through the use of carriers for the drugs, such as liposomes or microparticles, using a wide range of ultrasound frequency ranges and intensities. The microparticles are preferably small, and may have surfaces with increased hydrophilicity or lipophilicity to further enhance transport.

WEST

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L9: Entry 1 of 2 File: EPAB Feb 13, 1997

PUB-NO: WO009704832A1
DOCUMENT-IDENTIFIER: WO 9704832 A1
TITLE: ENHANCED TRANSDERMAL TRANSPORT USING ULTRASOUND

PUBN-DATE: February 13, 1997

INVENTOR-INFORMATION:

NAME	COUNTRY
MITRAGOTRI, SAMIR S	
PLIQUETT, UWE	
JOHNSON, MARK E	
PISHKO, MICHAEL	
KOST, JOSEPH	
LANGER, ROBERT S	
WEAVER, JAMES C	
BLANKSCHTEIN, DANIEL	

ASSIGNEE-INFORMATION:

NAME	COUNTRY
MASSACHUSETTS INST TECHNOLOGY	US

APPL-NO: US09612244
APPL-DATE: July 25, 1996

PRIORITY-DATA: US50706095A (July 25, 1995), US51158395A (August 4, 1995), US57437795A (December 18, 1995), US62602196A (April 1, 1996)

INT-CL (IPC): A61 M 37/00; A61 N 1/32
EUR-CL (EPC): A61M037/00; A61N001/32, A61K009/00 , A61K041/00

ABSTRACT:

CHG DATE=19990617 STATUS=O>Several means for enhancing transdermal transport of drugs and analytes have been developed, including the use of low frequence ultrasound, chemical modifiers of permeability and/or cavitation, iontophoresis and/or electroporation (electric fields), pressure and/or vacuum (physical enhancers), and magnetic force fields. Applications of low-frequency (approximately 20 KHz to 1 MHz) ultrasound enhances transdermal transport of drugs and measurements of the concentration of analytes in body fluids such as blood or lymph. Delivery can be further enhanced or controlled through the use of carriers for the drugs, such as liposomes or microparticles, using a wide range of ultrasound frequency ranges and intensities. The microparticles are preferably small, and may have surfaces with increased hydrophilicity or lipophilicity to further enhance transport.

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : A61B 5/00, A61M 37/00 — A1

(11) International Publication Number: WO 97/07734

(43) International Publication Date: 6 March 1997 (06.03.97)

(21) International Application Number: PCT/US96/13865

(22) International Filing Date: 29 August 1996 (29.08.96)

(30) Priority Data:

08/520,547	29 August 1995 (29.08.95)	US
60/008,043	30 October 1995 (30.10.95)	US

(71) Applicants *(for all designated States except US)*: SPECTRX, INC. [US/US]; 6025A Unity Drive, Norcross, GA 30071 (US). ALTEA TECHNOLOGIES, INC. [US/US]; 2844 Jasmine Court, Atlanta, GA 30345 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: EPPSTEIN, Jonathan, A. [US/US]; 2417 Woodacres Road N.E., Atlanta, GA 30345 (US). HATCH, Michael, R. [US/US]; 131 Price Hills Trail, Sugar Hill, GA 30518 (US). YANG, Difei [CN/US]; 3230 Mercer University Drive #115, Chamblee, GA 30341 (US).

(74) Agents: HOWARTH, Alan, J. et al.; Thorpe, North & Western, L.L.P., Suite 200, 9035 South 700 East, Sandy, UT 84070 (US).

(81) Designated States: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

Published

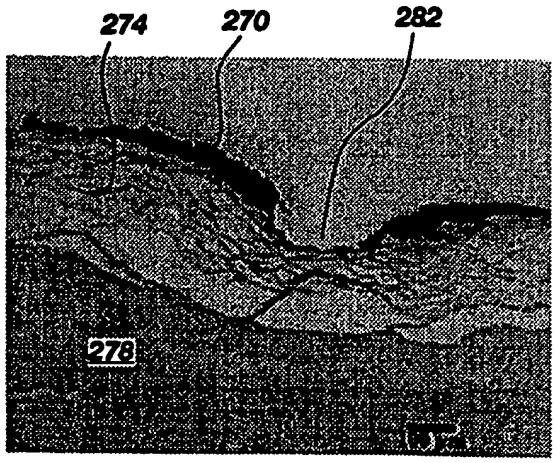
With international search report.

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: MICROPORATION OF HUMAN SKIN FOR DRUG DELIVERY AND MONITORING APPLICATIONS

(57) Abstract

A method of enhancing the permeability of the skin (120, 274) to an analytic for diagnostic purposes or to a drug for therapeutic purposes is described utilizing micro-pore and optionally sonic energy and a chemical enhancer. If selected, the sonic energy may be modulated by means of frequency modulation, amplitude modulation, phase modulation, and/or combinations thereof. Micro-pore is accomplished by (a) ablating the stratum corneum (274) by localized rapid heating of water such that water is vaporized, thus eroding cells; (b) puncturing the stratum corneum (274) which a micro-lancet calibrated to form a micro-pore of up to about 1000 μm in diameter; (c) ablating the stratum corneum (274) by focusing a tightly focused beam of sonic energy onto the stratum corneum (274); (d) hydraulically puncturing the stratum corneum (274) with a high-pressure jet of fluid to form a micro-pore of up to about 1000 μm in diameter; or (e) puncturing the stratum corneum (274) with short pulses of electricity to form a micro-pore of up to about 1000 μm in diameter.



Generate Collection

L10: Entry 1 of 2 File: EPAB Mar 6, 1997

PUB-NO: WO009707734A1
DOCUMENT-IDENTIFIER: WO 9707734 A1
TITLE: MICROPORATION OF HUMAN SKIN FOR DRUG DELIVERY AND MONITORING APPLICATIONS

PUBN-DATE: March 6, 1997

INVENTOR-INFORMATION:

NAME	COUNTRY
EPPSTEIN, JONATHAN A	US
HATCH, MICHAEL R	US
YANG, DIFEI	US

ASSIGNEE-INFORMATION:

NAME	COUNTRY
SPECTRX INC	US
ALTEA TECHNOLOGIES INC	US
EPPSTEIN JONATHAN A	US
HATCH MICHAEL R	US
YANG DIFEI	US

APPL-NO: US09613865
APPL-DATE: August 29, 1996

PRIORITY-DATA: US52054795A (August 29, 1995)

INT-CL (IPC): A61 B 5/00; A61 M 37/00

ABSTRACT:

A method of enhancing the permeability of the skin (120, 274) to an analytic for diagnostic purposes or to a drug for therapeutic purposes is described utilizing micro-pore and optionally sonic energy and a chemical enhancer. If selected, the sonic energy may be modulated by means of frequency modulation, amplitude modulation, phase modulation, and/or combinations thereof. Micro-pore is accomplished by (a) ablating the stratum corneum (274) by localized rapid heating of water such that water is vaporized, thus eroding cells; (b) puncturing the stratum corneum (274) which a micro-lancet calibrated to form a micro-pore of up to about 1000 mu m in diameter; (c) ablating the stratum corneum (274) by focusing a tightly focused beam of sonic energy onto the stratum corneum (274); (d) hydraulically puncturing the stratum corneum (274) with a high-pressure jet of fluid to form a micro-pore of up to about 1000 mu m in diameter; or (e) puncturing the stratum corneum (274) with short pulses of electricity to form a micro-pore of up to about 1000 mu m in diameter.

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : A61B 5/00, 10/00 — A1

(11) International Publication Number: WO 97/08987

(43) International Publication Date: 13 March 1997 (13.03.97)

(21) International Application Number: PCT/US96/14495

(22) International Filing Date: 6 September 1996 (06.09.96)

(30) Priority Data:
08/525,942 8 September 1995 (08.09.95) US

(71) Applicant: INTEG, INC. [US/US]; 2800 Patton Road, Roseville, MN 55113 (US).

(72) Inventors: LATTERELL, Scott, T.; 2128 Penn Avenue South, Minneapolis, MN 55405 (US). BRINDA, Paul, D.; 4108 Lake Drive, Robbinsdale, MN 55120 (US). HILGERS, Michael, E.; 179 Grandview Avenue, Roseville, MN 55113 (US). SHOUP, Michael, J.; 106th Place North, Maple Grove, MN 55369 (US). HOEGH, Thomas, B.; 4628 - 42nd Avenue South, Minneapolis, MN 55406 (US). ERICKSON, Brian, J.; 3453 Gunston Lane, Woodbury, MN 55125 (US).

(74) Agent: BRUESS, Steven, C.; Merchant, Gould, Smith, Edell, Welter & Schmidt, P.A., 3100 Norwest Center, 90 South Seventh Street, Minneapolis, MN 55402-4131 (US).

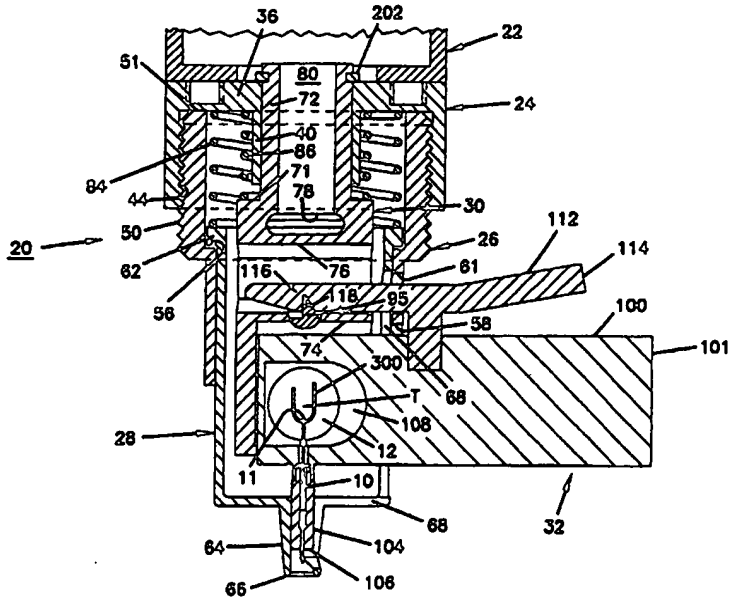
(81) Designated States: AL, AM, AT, AT (Utility model), AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), EE, EE (Utility model), ES, FI, FI (Utility model), GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), TJ, TM, TR, TT, UA, UG, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

Published

With international search report.

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: ENHANCED INTERSTITIAL FLUID COLLECTION



(57) Abstract

A sampling apparatus (20) for interstitial fluid includes a pressure ring (66) surrounding a collection needle (10). The pressure ring (66) and needle (10) are movable relative to one another for the ring (66) to first engage a patient's skin surface prior to insertion of the needle (10).

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L11: Entry 1 of 2 File: EPAB Mar 13, 1997

PUB-NO: WO009708987A1
DOCUMENT-IDENTIFIER: WO 9708987 A1
TITLE: ENHANCED INTERSTITIAL FLUID COLLECTION

PUBN-DATE: March 13, 1997

INVENTOR-INFORMATION:

NAME	COUNTRY
LATTERELL, SCOTT T	
BRINDA, PAUL D	
HILGERS, MICHAEL E	
SHOUP, MICHAEL J	
HOEGH, THOMAS B	
ERICKSON, BRIAN J	

ASSIGNEE-INFORMATION:

NAME	COUNTRY
INTEG INC	US

APPL-NO: US09614495
APPL-DATE: September 6, 1996

PRIORITY-DATA: US52594295A (September 8, 1995)

INT-CL (IPC): A61 B 5/00; A61 B 10/00
EUR-CL (EPC): A61B005/00; A61B010/00

ABSTRACT:

A sampling apparatus (20) for interstitial fluid includes a pressure ring (66) surrounding a collection needle (10). The pressure ring (66) and needle (10) are movable relative to one another for the ring (66) to first engage a patient's skin surface prior to insertion of the needle (10).

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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : A61B 5/00, 10/00

A1

(11) International Publication Number: WO 97/10745

(43) International Publication Date: 27 March 1997 (27.03.97)

(21) International Application Number: PCT/US96/14308

(22) International Filing Date: 6 September 1996 (06.09.96)

(30) Priority Data:
08/525,390 8 September 1995 (08.09.95) US
08/525,942 8 September 1995 (08.09.95) US

(71) Applicant: INTEG, INC. [US/US]; 2800 Patton Road, St. Paul, MN 55113 (US).

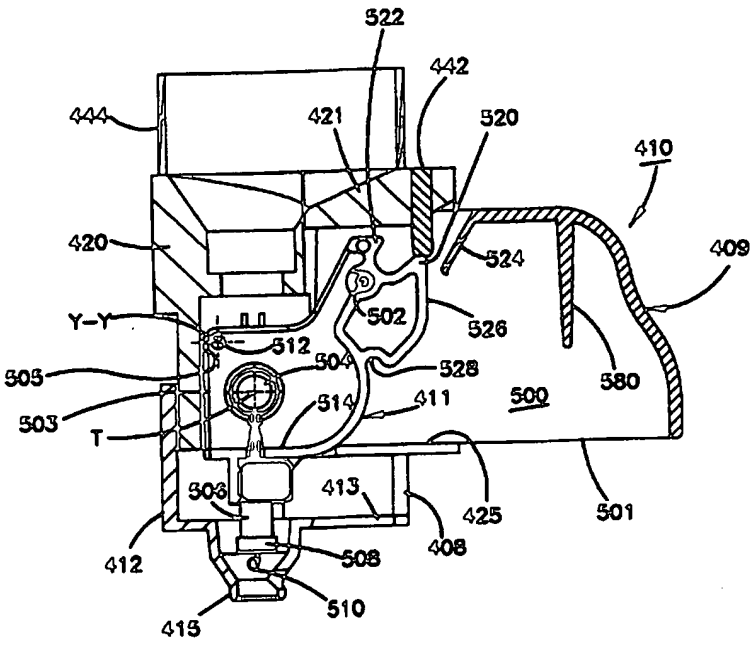
(72) Inventors: SOPP, John, P.; 3795 Keri Ann Lane, White Bear Lake, MN 55110 (US). LATTERELL, Scott, T.; 2128 Penn Avenue South, Minneapolis, MN 55405 (US). BRINDA, Paul, D.; 4108 Lake Drive, Robbinsdale, MN 55422 (US). ERSKINE, Timothy, J.; 1160 East Stone Valley Way, Sandy, UT 84094 (US).

(74) Agent: BRUESS, Steven, C.; Merchant, Gould, Smith, Edell, Welter & Schmidt, P.A., 3100 Norwest Center, 90 South Seventh Street, Minneapolis, MN 55402-4131 (US).

(81) Designated States: AL, AM, AT, AT (Utility model), AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), EE, EE (Utility model), ES, FI, FI (Utility model), GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), TJ, TM, TR, TT, UA, UG, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

Published
With international search report.
Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: BODY FLUID SAMPLER



(57) Abstract

A sampling apparatus (20) for sampling body fluid includes a sampler (410) having an external geometry selected to mate with an internal geometry of a testing apparatus such that the sampler (410) may be inserted within the testing apparatus in a predetermined alignment and with a sampling (T) location positioned accurately within a light path for detecting an amount of a desired constituent within fluid collected by the sampler (410).

Generate Collection

L13: Entry 1 of 2 File: EPAB Mar 27, 1997

PUB-NO: WO009710745A1
DOCUMENT-IDENTIFIER: WO 9710745 A1
TITLE: BODY FLUID SAMPLER

PUBN-DATE: March 27, 1997

INVENTOR-INFORMATION:

NAME	COUNTRY
SOPP, JOHN P	
LATTERELL, SCOTT T	
BRINDA, PAUL D	
ERSKINE, TIMOTHY J	

ASSIGNEE-INFORMATION:

NAME	COUNTRY
INTEG INC	US

APPL-NO: US09614308
APPL-DATE: September 6, 1996

PRIORITY-DATA: US52539095A (September 8, 1995)

INT-CL (IPC): A61 B 5/00; A61 B 10/00
EUR-CL (EPC): A61B005/00; A61B010/00

ABSTRACT:

A sampling apparatus (20) for sampling body fluid includes a sampler (410) having an external geometry selected to mate with an internal geometry of a testing apparatus such that the sampler (410) may be inserted within the testing apparatus in a predetermined alignment and with a sampling (T) location positioned accurately within a light path for detecting an amount of a desired constituent within fluid collected by the sampler (410).

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : A61B 17/14 — A1

(11) International Publication Number: WO 97/42882

(43) International Publication Date: 20 November 1997 (20.11.97)

(21) International Application Number: PCT/US97/08399

(22) International Filing Date: 16 May 1997 (16.05.97)

(30) Priority Data:

60/017,133	17 May 1996 (17.05.96)	US
60/019,918	14 June 1996 (14.06.96)	US
60/023,658	1 August 1996 (01.08.96)	US
60/025,340	3 September 1996 (03.09.96)	US
08/714,548	16 September 1996 (16.09.96)	US
08/710,456	17 September 1996 (17.09.96)	US
08/727,074	8 October 1996 (08.10.96)	US

(71) Applicant: MERCURY DIAGNOSTICS, INC. [US/US]; Suite D, 1137 San Antonio Road, Palo Alto, CA 94303 (US).

(72) Inventors: DOUGLAS, Joel, S.; 2048 Calabazas Boulevard, Santa Clara, CA 95051 (US). ROE, Jeffrey, N.; 3212 Veracruz Drive, San Ramon, CA 94583 (US). RADWANSKI, Ryszard; 16380 Sundance Drive, Morgan Hill, CA 95037 (US). DUCHON, Brent, G.; 410 Milan Drive #106, San Jose, CA 95134 (US).

(74) Agents: DILLAHUNTY, T., Gene et al.; Burns, Doane, Swecker & Mathis, L.L.P., P.O. Box 1404, Alexandria, VA 22313-1404 (US).

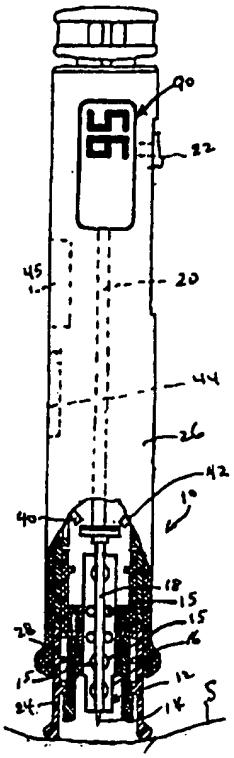
(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

Published
With international search report.

(54) Title: METHODS AND APPARATUS FOR SAMPLING AND ANALYZING BODY FLUID

(57) Abstract

A sampling device (10) for sampling body fluid includes a lancet (12) for making an incision, a capillary tube (18) for drawing up body fluid from the incision, and a test strip (30) affixed to an upper end of the capillary tube (18) for receiving the fluid. An absorbent pad (60) can be disposed between the test strip (30) and capillary tube (18) for spreading out the fluid being transferred to the test strip (30). An on site analyzer such as an optical analyzer (44) and/or an electrochemical analyzer (50) can be mounted in the device for analyzing the fluid. Alternatively, a test strip (30) can be slid through a slot formed in the bottom end of the device so that by passing the device against the skin after an incision has been formed. The test strip (30) will directly contact body fluid emanating from the incision.



End of Result Set

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L14: Entry 2 of 2 File: DWPI Apr 8, 2003

DERWENT-ACC-NO: 1998-008513
DERWENT-WEEK: 200333
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TITLE: Blood and interstitial fluid sampling device for analysis-processing - has disposable lancet mounted in housing also carrying capillary tube to conduct body fluid from incision to test strip plus on site analyser

INVENTOR: DOUGLAS, J S; DUCHON, B G ; RADWANSKI, R ; ROE, J N ; DREXLER, A M ; GRAGE, H M ; SANCHEZ, M J

PATENT-ASSIGNEE: MERCURY DIAGNOSTICS INC (MERCN), DOUGLAS J S (DOUGI), DUCHON B G (DUCHI), RADWANSKI R (RADWI), ROE J N (ROEJI), AMIRA MEDICAL (AMIRN)

PRIORITY-DATA: 1996US-0727074 (October 8, 1996), 1996US-017133P (May 17, 1996), 1996US-019918P (June 14, 1996), 1996US-023658P (August 1, 1996), 1996US-025340P (September 3, 1996), 1996US-0714548 (September 16, 1996), 1996US-0710456 (September 17, 1996), 1997US-0857680 (May 16, 1997), 1997US-0858042 (May 16, 1997), 1997US-0857335 (May 16, 1997), 1998US-0204909 (December 3, 1998), 1999US-0298386 (April 23, 1999), 1999US-0238158 (January 28, 1999), 1997WO-US08400 (May 16, 1997), 2000US-0552243 (April 19, 2000), 2001US-0887574 (June 21, 2001), 1996US-092121P (September 16, 1996)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 2003102712 A	April 8, 2003		009	A61B005/15
WO 9742882 A1	November 20, 1997	E	030	A61B017/14
AU 9733682 A	December 5, 1997		000	
US 5879311 A	March 9, 1999		000	A61B005/00
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CN 1222064 A	July 7, 1999		000	A61B017/32
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EP 955909 A1	November 17, 1999	E	000	
US 6048352 A	April 11, 2000		000	A61B005/00
ES 2121564 A1	May 1, 2000		000	A61B017/32
ES 2121565 A1	May 1, 2000		000	A61B017/32
US 6056701 A	May 2, 2000		000	A61B005/00
US 6099484 A	August 8, 2000		000	A61B005/00
IL 124426 A	June 1, 2000		000	A61M001/00
US 6183489 B1	February 6, 2001		000	A61B005/00
ES 2121565 B1	December 16, 2000		000	A61B017/32
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US 20020002344 A1	January 3, 2002		000	A61B005/00
US 6352514 B1	March 5, 2002		000	A61B005/00
JP 3356782 B2	December 16, 2002		009	A61B005/15
JP 2003102711 A	April 8, 2003		009	A61B005/15

DESIGNATED-STATES: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU

SD SE SG SI SK TJ TM TR TT UA UG UZ VN AT BE CH DE DK EA ES FI FR GB GH GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

CITED-DOCUMENTS:US 4637403; US 4924879 ; US 5029583 ; US 5279294

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP2003102712A	May 16, 1997	1997JP-0542600	Div ex
JP2003102712A	May 16, 1997	2002JP-0220713	
WO 9742882A1	May 16, 1997	1997WO-US08399	
AU 9733682A	May 16, 1997	1997AU-0033682	
AU 9733682A		WO 9742882	Based on
US 5879311A	May 17, 1996	1996US-017133P	Provisional
US 5879311A	June 14, 1996	1996US-019918P	Provisional
US 5879311A	August 1, 1996	1996US-023658P	Provisional
US 5879311A	September 3, 1996	1996US-025340P	Provisional
US 5879311A	May 16, 1997	1997US-0857680	
US 5951492A	May 17, 1996	1996US-017133P	Provisional
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US 5951492A	September 16, 1996	1996US-0714548	Provisional
US 5951492A	September 17, 1996	1996US-0710456	Provisional
US 5951492A	May 16, 1997	1997US-0858042	
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CN 1222840A	May 16, 1997	1997CN-0194718	
EP 955909A1	May 16, 1997	1997EP-0929682	
EP 955909A1	May 16, 1997	1997WO-US08399	
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US 6048352A	May 17, 1996	1996US-017133P	Provisional
US 6048352A	June 14, 1996	1996US-019918P	Provisional
US 6048352A	August 1, 1996	1996US-023658P	Provisional
US 6048352A	September 3, 1996	1996US-025340P	Provisional
US 6048352A	May 16, 1997	1997US-0857335	
ES 2121564A1	May 16, 1997	1998ES-0050024	
ES 2121565A1	May 16, 1997	1998ES-0050025	
US 6056701A	May 17, 1996	1996US-017133P	Provisional
US 6056701A	June 14, 1996	1996US-019918P	Provisional
US 6056701A	August 1, 1996	1996US-023658P	Provisional
US 6056701A	September 3, 1996	1996US-025340P	Provisional
US 6056701A	September 16, 1996	1996US-0714548	Provisional
US 6056701A	May 16, 1997	1997US-0857680	Cont of
US 6056701A	December 3, 1998	1998US-0204909	
US 6056701A		US 5879311	Cont of
US 6099484A	May 17, 1996	1996US-017133P	Provisional
US 6099484A	June 14, 1996	1996US-019918P	Provisional
US 6099484A	August 1, 1996	1996US-023658P	Provisional
US 6099484A	September 3, 1996	1996US-025340P	Provisional
US 6099484A	May 16, 1997	1997US-0858042	Cont of
US 6099484A	April 23, 1999	1999US-0298386	
US 6099484A		US 5951492	Cont of

IL 124426A	May 16, 1997	1997IL-0124426	
US 6183489B1	May 17, 1996	1996US-017133P	Provisional
US 6183489B1	June 14, 1996	1996US-019918P	Provisional
US 6183489B1	August 1, 1996	1996US-023658P	Provisional
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US20020002344A1	May 17, 1996	1996US-017133P	Provisional
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US20020002344A1	August 1, 1996	1996US-023658P	Provisional
US20020002344A1	September 3, 1996	1996US-025340P	Provisional
US20020002344A1	May 16, 1997	1997US-0858042	Cont of
US20020002344A1	April 23, 1999	1999US-0298386	Cont of
US20020002344A1	April 19, 2000	2000US-0552243	Cont of
US20020002344A1	June 21, 2001	2001US-0887574	
US20020002344A1		US 5951492	Cont of
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US 6352514B1	May 17, 1996	1996US-017133P	Provisional
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US 6352514B1	August 1, 1996	1996US-023658P	Provisional
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US 6352514B1	April 23, 1999	1999US-0298386	Cont of
US 6352514B1	April 19, 2000	2000US-0552243	
US 6352514B1		US 5951492	Cont of
US 6352514B1		US 6099484	Cont of
JP 3356782B2	May 16, 1997	1997JP-0541158	
JP 3356782B2	May 16, 1997	1997WO-US08400	
JP 3356782B2		JP 200203118	Previous Publ.
JP 3356782B2		WO 9742883	Based on
JP2003102711A	May 16, 1997	1997JP-0542600	Div ex
JP2003102711A	May 16, 1997	2002JP-0220701	

ES 2121564 B1 INT-CL (IPC): A61 B 5/00; A61 B 5/15; A61 B 17/14; A61 B 17/32; A61 M 1/00; G01 N 33/48

RELATED-ACC-NO: 1998-008514;1998-008516 ;1998-008517 ;1998-008519 ;1998-018163 ;1999-560312 ;2002-194549 ;2002-328397

ABSTRACTED-PUB-NO: US 5879311A
BASIC-ABSTRACT:

A sampling device [10] includes a lancet [12] for making an incision and a capillary tube [18] for drawing up body fluid from the incision with a test strip attached to its upper end for receiving the fluid. The lancet may be driven by a pusher which may have electrical leads on it. An absorbent pad can be disposed between the test strip and the capillary tube for spreading out the fluid being transferred to the test strip.

An on site analyser, such as an optical analyser [44], and/or an electrochemical analyser can be mounted in the device for analysing the fluid via the leads on the pusher. Alternatively, a test strip can be slid through a slot in the bottom of the

device so that by passing the device against the skin after an incision has been made, the test strip will directly contact the fluid emanating from the incision.

ADVANTAGE - Features minimally invasive sampling yet ensures that sufficiently large drop of body fluid is developed at incision and that that fluid reaches test strip.

ABSTRACTED-PUB-NO: US 5951492A
EQUIVALENT-ABSTRACTS:

A sampling device [10] includes a lancet [12] for making an incision and a capillary tube [18] for drawing up body fluid from the incision with a test strip attached to its upper end for receiving the fluid. The lancet may be driven by a pusher which may have electrical leads on it. An absorbent pad can be disposed between the test strip and the capillary tube for spreading out the fluid being transferred to the test strip.

An on site analyser, such as an optical analyser [44], and/or an electrochemical analyser can be mounted in the device for analysing the fluid via the leads on the pusher. Alternatively, a test strip can be slid through a slot in the bottom of the device so that by passing the device against the skin after an incision has been made, the test strip will directly contact the fluid emanating from the incision.

ADVANTAGE - Features minimally invasive sampling yet ensures that sufficiently large drop of body fluid is developed at incision and that that fluid reaches test strip.

A sampling device [10] includes a lancet [12] for making an incision and a capillary tube [18] for drawing up body fluid from the incision with a test strip attached to its upper end for receiving the fluid. The lancet may be driven by a pusher which may have electrical leads on it. An absorbent pad can be disposed between the test strip and the capillary tube for spreading out the fluid being transferred to the test strip.

An on site analyser, such as an optical analyser [44], and/or an electrochemical analyser can be mounted in the device for analysing the fluid via the leads on the pusher. Alternatively, a test strip can be slid through a slot in the bottom of the device so that by passing the device against the skin after an incision has been made, the test strip will directly contact the fluid emanating from the incision.

ADVANTAGE - Features minimally invasive sampling yet ensures that sufficiently large drop of body fluid is developed at incision and that that fluid reaches test strip.

US 6048352A

A sampling device [10] includes a lancet [12] for making an incision and a capillary tube [18] for drawing up body fluid from the incision with a test strip attached to its upper end for receiving the fluid. The lancet may be driven by a pusher which may have electrical leads on it. An absorbent pad can be disposed between the test strip and the capillary tube for spreading out the fluid being transferred to the test strip.

An on site analyser, such as an optical analyser [44], and/or an electrochemical analyser can be mounted in the device for analysing the fluid via the leads on the pusher. Alternatively, a test strip can be slid through a slot in the bottom of the device so that by passing the device against the skin after an incision has been made, the test strip will directly contact the fluid emanating from the incision.

ADVANTAGE - Features minimally invasive sampling yet ensures that sufficiently large drop of body fluid is developed at incision and that that fluid reaches test strip.

US 6056701A

A sampling device [10] includes a lancet [12] for making an incision and a capillary tube [18] for drawing up body fluid from the incision with a test strip attached to its upper end for receiving the fluid. The lancet may be driven by a pusher which may have electrical leads on it. An absorbent pad can be disposed between the test

strip and the capillary tube for spreading out the fluid being transferred to the test strip.

An on site analyser, such as an optical analyser [44], and/or an electrochemical analyser can be mounted in the device for analysing the fluid via the leads on the pusher. Alternatively, a test strip can be slid through a slot in the bottom of the device so that by passing the device against the skin after an incision has been made, the test strip will directly contact the fluid emanating from the incision.

ADVANTAGE - Features minimally invasive sampling yet ensures that sufficiently large drop of body fluid is developed at incision and that that fluid reaches test strip.

US 6099484A

A sampling device [10] includes a lancet [12] for making an incision and a capillary tube [18] for drawing up body fluid from the incision with a test strip attached to its upper end for receiving the fluid. The lancet may be driven by a pusher which may have electrical leads on it. An absorbent pad can be disposed between the test strip and the capillary tube for spreading out the fluid being transferred to the test strip.

An on site analyser, such as an optical analyser [44], and/or an electrochemical analyser can be mounted in the device for analysing the fluid via the leads on the pusher. Alternatively, a test strip can be slid through a slot in the bottom of the device so that by passing the device against the skin after an incision has been made, the test strip will directly contact the fluid emanating from the incision.

ADVANTAGE - Features minimally invasive sampling yet ensures that sufficiently large drop of body fluid is developed at incision and that that fluid reaches test strip.

US 6183489B

A sampling device [10] includes a lancet [12] for making an incision and a capillary tube [18] for drawing up body fluid from the incision with a test strip attached to its upper end for receiving the fluid. The lancet may be driven by a pusher which may have electrical leads on it. An absorbent pad can be disposed between the test strip and the capillary tube for spreading out the fluid being transferred to the test strip.

An on site analyser, such as an optical analyser [44], and/or an electrochemical analyser can be mounted in the device for analysing the fluid via the leads on the pusher. Alternatively, a test strip can be slid through a slot in the bottom of the device so that by passing the device against the skin after an incision has been made, the test strip will directly contact the fluid emanating from the incision.

ADVANTAGE - Features minimally invasive sampling yet ensures that sufficiently large drop of body fluid is developed at incision and that that fluid reaches test strip.

US 6352514B

A sampling device [10] includes a lancet [12] for making an incision and a capillary tube [18] for drawing up body fluid from the incision with a test strip attached to its upper end for receiving the fluid. The lancet may be driven by a pusher which may have electrical leads on it. An absorbent pad can be disposed between the test strip and the capillary tube for spreading out the fluid being transferred to the test strip.

An on site analyser, such as an optical analyser [44], and/or an electrochemical analyser can be mounted in the device for analysing the fluid via the leads on the pusher. Alternatively, a test strip can be slid through a slot in the bottom of the device so that by passing the device against the skin after an incision has been made, the test strip will directly contact the fluid emanating from the incision.

ADVANTAGE - Features minimally invasive sampling yet ensures that sufficiently large drop of body fluid is developed at incision and that that fluid reaches test strip.

US20020002344A

A sampling device [10] includes a lancet [12] for making an incision and a capillary tube [18] for drawing up body fluid from the incision with a test strip attached to its upper end for receiving the fluid. The lancet may be driven by a pusher which may have electrical leads on it. An absorbent pad can be disposed between the test strip and the capillary tube for spreading out the fluid being transferred to the test strip.

An on site analyser, such as an optical analyser [44], and/or an electrochemical analyser can be mounted in the device for analysing the fluid via the leads on the pusher. Alternatively, a test strip can be slid through a slot in the bottom of the device so that by passing the device against the skin after an incision has been made, the test strip will directly contact the fluid emanating from the incision.

ADVANTAGE - Features minimally invasive sampling yet ensures that sufficiently large drop of body fluid is developed at incision and that that fluid reaches test strip.

WO 9742882A

CHOSEN-DRAWING: Dwg.1/8

DERWENT-CLASS: P31 P34 S03 S05
EPI-CODES: S03-E14B; S03-E14H1; S05-C01;

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : A61M 31/00 — A1

(11) International Publication Number: WO 98/00193

(43) International Publication Date: 8 January 1998 (08.01.98)

(21) International Application Number: PCT/US97/11670

(22) International Filing Date: 3 July 1997 (03.07.97)

(30) Priority Data:
60/021,212 3 July 1996 (03.07.96) US

(71) Applicants *(for all designated States except US)*: ALTEA TECHNOLOGIES, INC. [US/US]; 2844 Jasmine Court, Atlanta, GA 30345 (US). SPECTRX, INC. [US/US]; 6025 A Unity Drive, Norcross, GA 30071 (US).

(72) Inventor; and

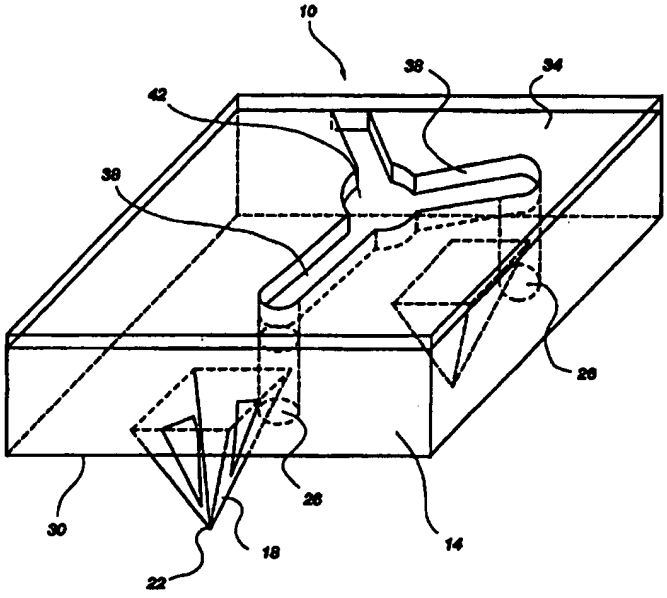
(75) Inventor/Applicant *(for US only)*: EPPSTEIN, Jonathan, A. [US/US]; 2417 Woodacres Road, N.E., Atlanta, GA 30345 (US).

(74) Agents: HOWARTH, Alan, J. et al.; Thorpe, North & Western, L.L.P., Suite 200, 9035 South 700 East, Sandy, UT 84070 (US).

(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

Published
With international search report.

(54) Title: MULTIPLE MECHANICAL MICROPORATION OF SKIN OR MUCOSA



(57) Abstract

A device and methods of use for delivering a drug to the body, or monitoring an analyte found in the body, are described. The device (10) comprises a base (14), a plurality of puncturing members (18) extending therefrom, a plurality of holes (26) extending through the base for the passage of drug or the analyte therethrough, and a network of channels (66) for distributing the drug or collecting the analyte. Methods of trans-dermal or trans-mucous delivering a drug or monitoring an analyte are also disclosed.

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L17: Entry 1 of 2 File: EPAB Jan 8, 1998

PUB-NO: WO009800193A1
DOCUMENT-IDENTIFIER: WO 9800193 A1
TITLE: MULTIPLE MECHANICAL MICROPORATION OF SKIN OR MUCOSA

PUBN-DATE: January 8, 1998

INVENTOR-INFORMATION:

NAME	COUNTRY
EPPSTEIN, JONATHAN A	US

ASSIGNEE-INFORMATION:

NAME	COUNTRY
ALTEA TECHNOLOGIES INC	US
SPECTRX INC	US
EPPSTEIN JONATHAN A	US

APPL-NO: US09711670
APPL-DATE: July 3, 1997

PRIORITY-DATA: US02121296P (July 3, 1996)

INT-CL (IPC): A61 M 31/00
EUR-CL (EPC): A61M037/00

ABSTRACT:

CHG DATE=19990617 STATUS=O>A device and methods of use for delivering a drug to the body, or monitoring an analyte found in the body, are described. The device (10) comprises a base (14), a plurality of puncturing members (18) extending therefrom, a plurality of holes (26) extending through the base for the passage of drug or the analyte therethrough, and a network of channels (66) for distributing the drug or collecting the analyte. Methods of trans-dermal or trans-mucous delivering a drug or monitoring an analyte are also disclosed.

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : A61M 35/00, 37/00 — A1

(11) International Publication Number: **WO 98/11937**

(43) International Publication Date: 26 March 1998 (26.03.98)

(21) International Application Number: PCT/US97/16454

(22) International Filing Date: 15 September 1997 (15.09.97)

(30) Priority Data:

60/026,266	17 September 1996 (17.09.96)	US
60/039,036	24 February 1997 (24.02.97)	US

(81) Designated States: CA, JP, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

Published
With international search report.

(71) Applicant: DEKA PRODUCTS LIMITED PARTNERSHIP [US/US]; 340 Commercial Street, Manchester, NH 03101 (US).

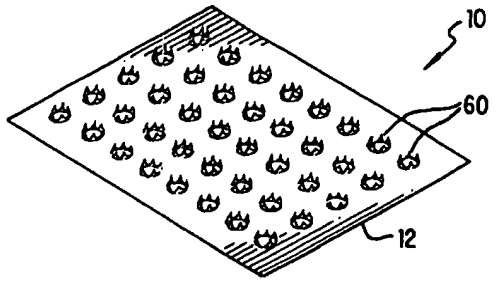
(72) Inventor: KAMEN, Dean, L.; 44 Gage Road, Bedford, NH 03110 (US).

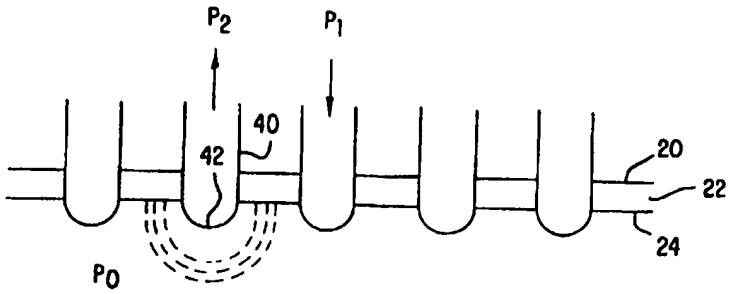
(74) Agents: SUNSTEIN, Bruce, D. et al.; Bromberg & Sunstein LLP, 125 Summer Street, Boston, MA 02110-1618 (US).

(54) Title: SYSTEM FOR DELIVERY OF DRUGS BY TRANSPORT

(57) Abstract

A method and apparatus for introducing a fluid agent into body tissue by causing transport of the fluid agent into the dermis of the subject. The outer surface of the skin of the subject is drawn against a plurality of micropenetrators such that microfissures are cloven into the epidermis and fluid may be introduced for diffusion or suction within the dermis. Suction creates a pressure gradient within the dermis to cause fluid take-up by the dermal tissue. The micropenetrators are produced by punching an array of protrusions in the surface of a thin sheet creating sharp edges for penetrating the epidermis.





Generate Collection

L18: Entry 1 of 2 File: EPAB Mar 26, 1998

PUB-NO: WO009811937A1
DOCUMENT-IDENTIFIER: WO 9811937 A1
TITLE: SYSTEM FOR DELIVERY OF DRUGS BY TRANSPORT

PUBN-DATE: March 26, 1998

INVENTOR-INFORMATION:

NAME	COUNTRY
KAMEN, DEAN L	

ASSIGNEE-INFORMATION:

NAME	COUNTRY
DEKA PRODUCTS LP	US

APPL-NO: US09716454
APPL-DATE: September 15, 1997

PRIORITY-DATA: US02626696P (September 17, 1996), US03903697P (February 24, 1997)

INT-CL (IPC): A61 M 35/00; A61 M 37/00
EUR-CL (EPC): A61K009/70; A61M035/00

ABSTRACT:

CHG DATE=19990617 STATUS=O>A method and apparatus for introducing a fluid agent into body tissue by causing transport of the fluid agent into the dermis of the subject. The outer surface of the skin of the subject is drawn against a plurality of micropenetrators such that microfissures are cloven into the epidermis and fluid may be introduced for diffusion or suction within the dermis. Suction creates a pressure gradient within the dermis to cause fluid take-up by the dermal tissue. The micropenetrators are produced by punching an array of protrusions in the surface of a thin sheet creating sharp edges for penetrating the epidermis.

PCT WELTORGANISATION FÜR GEISTIGES EIGENTUM
Internationales Büro
INTERNATIONALE ANMELDUNG VERÖFFENTLICHT NACH DEM VERTRAG ÜBER DIE INTERNATIONALE ZUSAMMENARBEIT AUF DEM GEBIET DES PATENTWESENS (PCT)

(51) Internationale Patentklassifikation 6 : A61B 5/00 — A1

(11) Internationale Veröffentlichungsnummer: WO 99/07277

(43) Internationales Veröffentlichungsdatum: 18. Februar 1999 (18.02.99)

(21) Internationales Aktenzeichen: PCT/DE98/02262

(22) Internationales Anmeldedatum: 6. August 1998 (06.08.98)

(30) Prioritätsdaten:
197 34 618.9 9. August 1997 (09.08.97) DE
197 34 617.0 9. August 1997 (09.08.97) DE

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(74) Anwälte: PFEIFER, Hans–Peter usw.; Beiertheimer Allee 19, D–76137 Karlsruhe (DE).

(81) Bestimmungsstaaten: JP, US, europäisches Patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

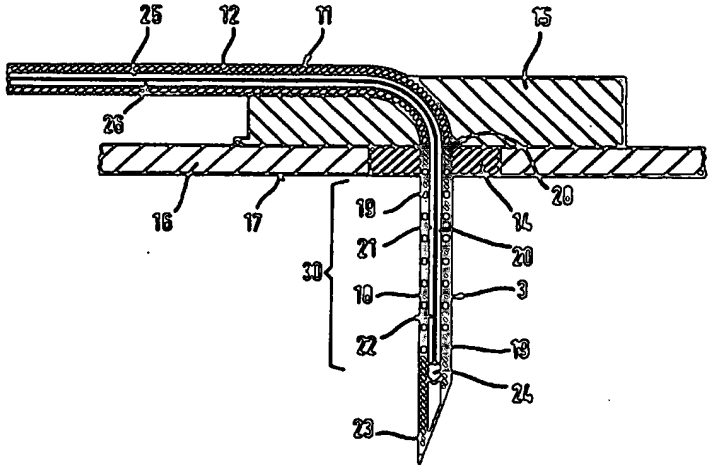
Veröffentlicht
Mit internationalem Recherchenbericht.
Vor Ablauf der für Änderungen der Ansprüche zugelassenen Frist; Veröffentlichung wird wiederholt falls Änderungen eintreffen.

(54) Title: ANALYTICAL DEVICE FOR IN VIVO ANALYSIS IN THE BODY OF A PATIENT

(54) Bezeichnung: ANALYSEVORRICHTUNG ZUR IN–VIVO–ANALYSE IM KÖRPER EINES PATIENTEN

(57) Abstract

The invention relates to an analytical device for determining an analyte in vivo in the body of a patient by using a sensor with a cannula (18) which can be inserted into the skin. An optical fiber (22) inside the cannula (18) guides light into the cannula (18), and thus into the body interior. The light transported in the optical fiber (22) undergoes a change in the sensor (3) that is characteristic of the presence of the analyte. This change is measured by an evaluation unit (4), in order to obtain information about the presence of the analyte in the body. The cannula (18) can be penetrated at least along a section of its length which can be inserted into the skin, and this serves as a measuring section (30). As a result, interstitial liquid flows through the cannula wall to a measuring section of the optic fiber (18) which runs inside the cannula (18). The light change which is characteristic of the presence of the analyte results from interaction with the interstitial liquid in the measuring section.



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L19: Entry 1 of 2 File: EPAB Feb 18, 1999

PUB-NO: WO009907277A1
DOCUMENT-IDENTIFIER: WO 9907277 A1
TITLE: ANALYTICAL DEVICE FOR IN VIVO ANALYSIS IN THE BODY OF A PATIENT

PUBN-DATE: February 18, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
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WERNER, GERHARD	DE
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LAMBRECHT, ARMIN	DE
KASTNER, JOACHIM	DE

ASSIGNEE-INFORMATION:

NAME	COUNTRY
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FRAUNHOFER GES FORSCHUNG	DE
HAAR HANS PETER	DE
WERNER GERHARD	DE
BOECKER DIRK	DE
LAMBRECHT ARMIN	DE
KASTNER JOACHIM	DE

APPL-NO: DE09802262
APPL-DATE: August 6, 1998

PRIORITY-DATA: DE19734618A (August 9, 1997), DE19734617A (August 9, 1997)

INT-CL (IPC): A61 B 5/00
EUR-CL (EPC): A61B005/00

ABSTRACT:

CHG DATE=19990905 STATUS=O>The invention relates to an analytical device for determining an analyte in vivo in the body of a patient by using a sensor with a cannula (18) which can be inserted into the skin. An optical fiber (22) inside the cannula (18) guides light into the cannula (18), and thus into the body interior. The light transported in the optical fiber (22) undergoes a change in the sensor (3) that is characteristic of the presence of the analyte. This change is measured by an evaluation unit (4), in order to obtain information about the presence of the analyte in the body. The cannula (18) can be penetrated at least along a section of its length which can be inserted into the skin, and this serves as a measuring section (30). As a result, interstitial liquid flows through the cannula wall to a measuring section of the optic fiber (18) which runs inside the cannula (18). The light change which is characteristic of the presence of the analyte results from interaction with the interstitial liquid in the measuring section.

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International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : A61B 10/00 — A1

(11) International Publication Number: WO 99/20181

(43) International Publication Date: 29 April 1999 (29.04.99)

(21) International Application Number: PCT/US98/22114

(22) International Filing Date: 20 October 1998 (20.10.98)

(30) Priority Data:
60/065,431 21 October 1997 (21.10.97) US

(71) Applicant (*for all designated States except US*): ABBOTT LABORATORIES [US/US]; CHAD 0377/AP6D–2, 100 Abbott Park Road, Abbott Park, IL 60064–3500 (US).

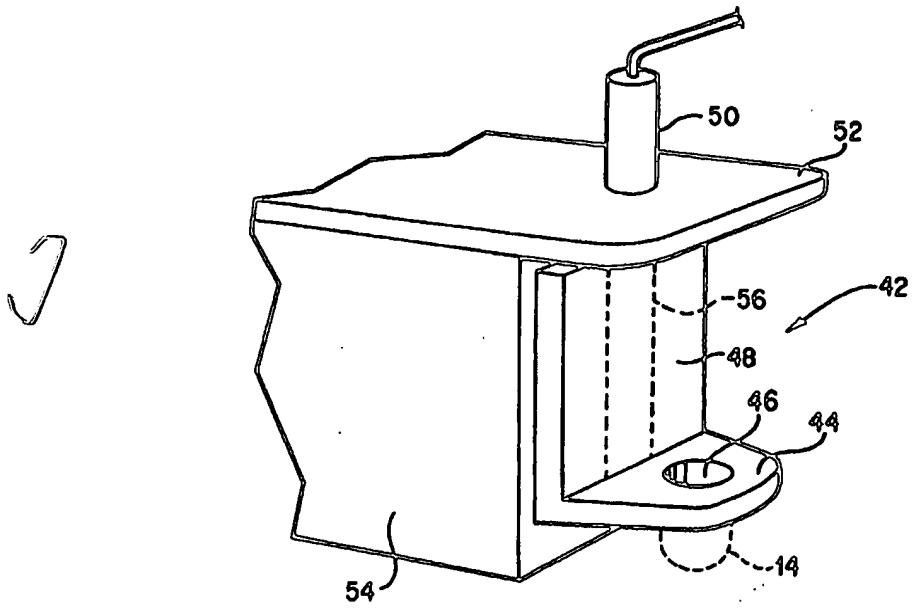
(72) Inventors; and
(75) Inventors/Applicants (*for US only*): GRACE, John, P. [US/US]; 38082 North Academy Drive, Lake Villa, IL 60046 (US). LOOMIS, Neil, W. [US/US]; 1730 S. Wisconsin Avenue, Racine, WI 53403 (US). SCHAPIRA, Thomas, G. [US/US]; 21615 107th Street, Bristol, WI 53104 (US). WONG, Sie, Ting [US/US]; 21 N. Bristol Court, Mundelein, IL 60060 (US). NOONAN, Kristin [US/US]; Apartment #101, 100 Red Top, Libertyville, IL 60048 (US). LOWERY, Michael, G. [US/US]; 33720 Royal Oak Lane, Wildwood, IL 60030 (US). BOJAN, Pete, M. [US/US]; 753 Durham Lane, Grayslake, IL 60030 (US). SCHMIDT, Daniel, D. [US/US]; 2308 W. Lincolnwood Avenue, Oak Creek, WI 53154 (US). TUNG–MING, Huang [US/US]; 1900 Brandywyn Lane, Buffalo Grove, IL 60089 (US). HILTIBRAN, Glen [US/US]; P.O. Box 132, Bristol, WI 53104 (US). POPE, Mark, R. [US/US]; 520 West Trail, Grayslake, IL 60030 (US). KOTLARIK, John, J. [US/US]; 853 Ellen Way, Libertyville, IL 60048 (US). TARKOWSKI, Brian, Joseph [US/US]; 38579 North Highway 59, Lake Villa, IL 60046 (US). CUNNINGHAM, David, Dean [US/US]; 40097 N. Hwy 45, Lake Villa, IL 60046 (US).

(74) Agents: WEINSTEIN, David, L. et al.; Abbott Laboratories, CHAD 0377/AP6D–2, 100 Abbott Park Road, Abbott Park, IL 60064–3500 (US).

(81) Designated States: CA, JP, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

Published
With international search report.
Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: APPARATUS AND METHOD FOR THE COLLECTION OF INTERSTITIAL FLUIDS



(57) Abstract

The present invention involves apparatus and methods for use in collecting bodily fluids, such as interstitial fluids, from the epidermal layer of an animal. A preferred apparatus includes a pressure head and, optionally, a holder therefor for supplying a positive pressure to the head. The methods include the application of a positive pressure to the area surrounding an epidermal site from which stratum corneum has been breached, such as by laser ablation, to cause bodily fluids, such as interstitial fluids, to exude from the site and collecting the fluids exuding therefrom.

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L20: Entry 1 of 2 File: EPAB Apr 29, 1999

PUB-NO: WO009920181A1
DOCUMENT-IDENTIFIER: WO 9920181 A1
TITLE: APPARATUS AND METHOD FOR THE COLLECTION OF INTERSTITIAL FLUIDS

PUBN-DATE: April 29, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
GRACE, JOHN P	US
LOOMIS, NEIL W	US
SCHAPIRA, THOMAS G	US
WONG, SIE TING	US
NOONAN, KRISTIN	US
LOWERY, MICHAEL G	US
BOJAN, PETE M	US
SCHMIDT, DANIEL D	US
TUNG-MING, HUANG	US
HILTIBRAN, GLEN	US
POPE, MARK R	US
KOTLARIK, JOHN J	US
TARKOWSKI, BRIAN JOSEPH	US
CUNNINGHAM, DAVID DEAN	US

ASSIGNEE-INFORMATION:

NAME	COUNTRY
ABBOTT LAB	US
GRACE JOHN P	US
LOOMIS NEIL W	US
SCHAPIRA THOMAS G	US
WONG SIE TING	US
NOONAN KRISTIN	US
LOWERY MICHAEL G	US
BOJAN PETE M	US
SCHMIDT DANIEL D	US
TUNG MING HUANG	US
HILTIBRAN GLEN	US
POPE MARK R	US
KOTLARIK JOHN J	US
TARKOWSKI BRIAN JOSEPH	US
CUNNINGHAM DAVID DEAN	US

APPL-NO: US09822114
APPL-DATE: October 20, 1998

PRIORITY-DATA: US06543197P (October 21, 1997)

INT-CL (IPC): A61 B 10/00

EUR-CL (EPC): A61B010/00

ABSTRACT:

CHG DATE=19990702 STATUS=O>The present invention involves apparatus and methods for use in collecting bodily fluids, such as interstitial fluids, from the epidermal layer of an animal. A preferred apparatus includes a pressure head and, optionally, a holder therefor for supplying a positive pressure to the head. The methods include the application of a positive pressure to the area surrounding an epidermal site from which stratum corneum has been breached, such as by laser ablation, to cause bodily fluids, such as interstitial fluids, to exude from the site and collecting the fluids exuding therefrom.

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : A61B 5/103, 5/14

A1

(11) International Publication Number: WO 99/27852

(43) International Publication Date: 10 June 1999 (10.06.99)

(21) International Application Number: PCT/US98/24962

(22) International Filing Date: 20 November 1998 (20.11.98)

(30) Priority Data:
08/982,449 2 December 1997 (02.12.97) US

(71) Applicant: ABBOTT LABORATORIES [US/US]; CHAD-0377/AP6D-2, 100 Abbott Park Road, Abbott Park, IL 60064-3500 (US).

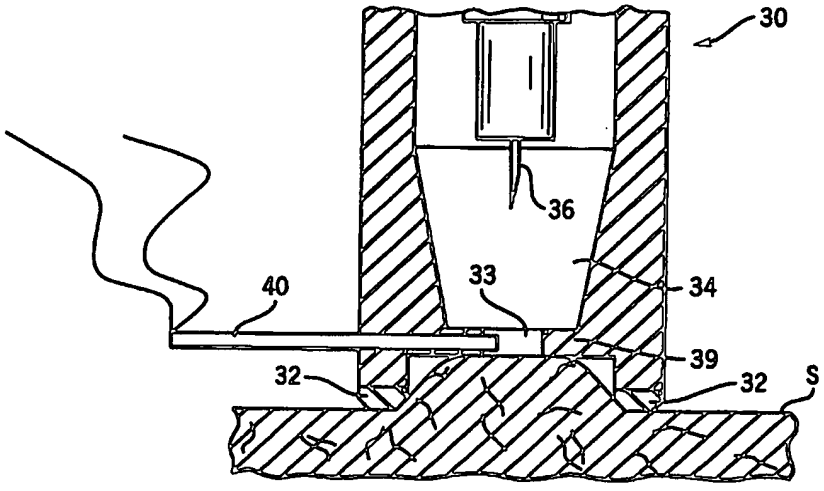
(72) Inventors: HENNING, Timothy, P.; 189 Sheffield Lane, Vernon Hills, IL 60061 (US). HILTIBRAN, Robert, G.; 8214 200th Avenue, Bristol, WI 53104 (US). CUNNINGHAM, David, D.; 40097 North Highway 45, Lake Villa, IL 60046 (US). SHAIN, Eric, B.; 459 Grove Street, Glencoe, IL 60022 (US). TARKOWSKI, Brian, J.; 38579 Highway 59 N., Lake Villa, IL 60046 (US). YOUNG, Douglas, F.; 212 Bonnie Brae Avenue, Grayslake, IL 60030 (US).

(74) Agents: WEINSTEIN, David, L. et al.; Abbott Laboratories, CHAD 0377/AP6D-2, 100 Abbott Park Road, Abbott Park, IL 60064-3500 (US).

(81) Designated States: CA, JP, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

Published
With international search report.

(54) Title: METHOD AND APPARATUS FOR OBTAINING INTERSTITIAL FLUID FOR DIAGNOSTIC TESTS



(57) Abstract

Method and apparatus for obtaining a sample of interstitial fluid from a patient for subsequent diagnostic tests, e.g. glucose monitoring. In one aspect of the invention, the method comprises the steps of: (a) treating an area of the skin with vacuum or heat or both vacuum and heat to increase the availability of interstitial fluid at that area of the skin; (b) forming an opening in the treated area of the skin; and (c) extracting the sample of interstitial fluid from the opening in the skin, with the aid of vacuum and stretching of the skin. In another aspect of the invention, an apparatus for carrying out the method described previously is provided. The apparatus comprises: (a) a device for forming an unobstructed opening in an area of skin from which the sample is to be extracted, preferably a lancing assembly; and (b) a vacuum pump. Preferably, the apparatus also includes a housing.

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L21: Entry 1 of 2 File: EPAB Jun 10, 1999

PUB-NO: WO009927852A1
DOCUMENT-IDENTIFIER: WO 9927852 A1
TITLE: METHOD AND APPARATUS FOR OBTAINING INTERSTITIAL FLUID FOR DIAGNOSTIC TESTS

PUBN-DATE: June 10, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
HENNING, TIMOTHY P	
HILTIBRAN, ROBERT G	
CUNNINGHAM, DAVID D	
SHAIN, ERIC B	
TARKOWSKI, BRIAN J	
YOUNG, DOUGLAS F	

ASSIGNEE-INFORMATION:

NAME	COUNTRY
ABBOTT LAB	US

APPL-NO: US09824962
APPL-DATE: November 20, 1998

PRIORITY-DATA: US98244997A (December 2, 1997)

INT-CL (IPC): A61 B 5/103; A61 B 5/14
EUR-CL (EPC): A61B010/00

ABSTRACT:

CHG DATE=19990803 STATUS=O>Method and apparatus for obtaining a sample of interstitial fluid from a patient for subsequent diagnostic tests, e.g. glucose monitoring. In one aspect of the invention, the method comprises the steps of: (a) treating an area of the skin with vacuum or heat or both vacuum and heat to increase the availability of interstitial fluid at that area of the skin; (b) forming an opening in the treated area of the skin; and (c) extracting the sample of interstitial fluid from the opening in the skin, with the aid of vacuum and stretching of the skin. In another aspect of the invention, an apparatus for carrying out the method described previously is provided. The apparatus comprises: (a) a device for forming an unobstructed opening in an area of skin from which the sample is to be extracted, preferably a lancing assembly; and (b) a vacuum pump. Preferably, the apparatus also includes a housing.

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : A61B 10/00, A61K 41/00, A61B 5/103 — A1

(11) International Publication Number: WO 99/40848

(43) International Publication Date: 19 August 1999 (19.08.99)

(21) International Application Number: PCT/US99/03247

(22) International Filing Date: 16 February 1999 (16.02.99)

(30) Priority Data:
60/074,866 17 February 1998 (17.02.98) US

(71) Applicant: ABBOTT LABORATORIES [US/US]; CHAD 0377/AP6D–2, 100 Abbott Park Road, Abbott Park, IL 60064–6050 (US).

(72) Inventors: BOJAN, Peter, M.; 753 Durham Lane, Grayslake, IL 60030 (US). HENNING, Timothy, P.; 189 Sheffield Lane, Vernon Hills, IL 60061 (US). LOOMIS, Neil, W.; 1730 South Wisconsin Avenue, Racine, WI 53403 (US). POPE, Mark, R.; 520 West Trail, Grayslake, IL 60030 (US). EPPSTEIN, Jonathan; 2417 Woodacres Road N.E., Atlanta, GA 30345 (US).

(74) Agents: WEINSTEIN, David, L. et al.; Abbott Laboratories, CHAD 0377/AP6D–2, 100 Abbott Park Road, Abbott Park, IL 60064–6050 (US).

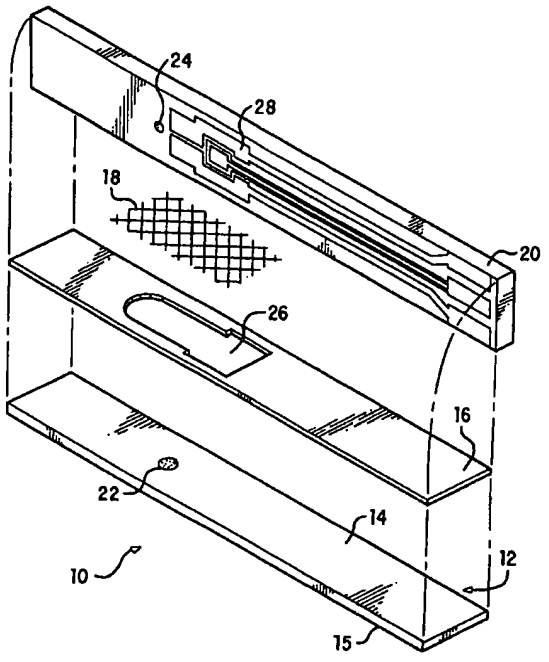
(81) Designated States: CA, JP, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

Published
With international search report.

(54) Title: INTERSTITIAL FLUID COLLECTION AND MONITORING DEVICE

(57) Abstract

An article (10) capable of both collecting interstitial fluid and detecting an analyte in that fluid and a method for use of that article (10). Preferably, the article (10) is also capable of measuring the amount of analyte in the interstitial fluid. The article (10) can be used in conjunction with a meter that contains an appropriate detection element for determining the amount of analyte in the interstitial fluid. In one preferred embodiment, the article (10) is a multiple–layer element comprising: (1) a layer (15) that is capable of being placed in contact with the skin of a patient; (2) a layer (16) that is coated over the skin–contacting layer (15); (3) a layer (18), substantially coplanar with the overcoat layer (16), that is capable of transporting interstitial fluid by means of chemically aided wicking; (4) a layer (20), overlying the interstitial fluid transporting layer (18), that is capable of being placed in contact with a meter (28), said layer having an opening (24) therein through which light can be transmitted; (5) a layer (28), disposed on the surface of the meter–contacting layer (20) that faces the skin–contacting layer (15), that is capable of detecting the presence of analyte or measuring the amount of analyte in the fluid. In order to use the multiple–layer (18) element (10), light from a source of light is transmitted through the opening (24) in the multiple–layer material to be absorbed at a light–absorbing target (22) on the skin–contacting layer (15). This light transfers energy to the target (22), and this transferred energy causes an opening to form in the skin–contacting layer (15) and an opening to form in the stratum corneum. Interstitial fluid exudes from the opening in the stratum corneum and contacts the interstitial fluid transporting layer (18). The interstitial fluid then moves along or through the interstitial fluid transporting layer (18) to the detecting layer (28).



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L22: Entry 1 of 2 File: EPAB Aug 19, 1999

PUB-NO: WO009940848A1
DOCUMENT-IDENTIFIER: WO 9940848 A1
TITLE: INTERSTITIAL FLUID COLLECTION AND MONITORING DEVICE

PUBN-DATE: August 19, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
BOJAN, PETER M	
HENNING, TIMOTHY P	
LOOMIS, NEIL W	
POPE, MARK R	
EPPSTEIN, JONATHAN	

ASSIGNEE-INFORMATION:

NAME	COUNTRY
ABBOTT LAB	US

APPL-NO: US09903247
APPL-DATE: February 16, 1999

PRIORITY-DATA: US07486698P (February 17, 1998)

INT-CL (IPC): A61 B 10/00; A61 K 41/00; A61 B 5/103
EUR-CL (EPC): A61B010/00; A61K041/00, A61B005/00

ABSTRACT:

CHG DATE=19991002 STATUS=O>An article (10) capable of both collecting interstitial fluid and detecting an analyte in that fluid and a method for use of that article (10). Preferably, the article (10) is also capable of measuring the amount of analyte in the interstitial fluid. The article (10) can be used in conjunction with a meter that contains an appropriate detection element for determining the amount of analyte in the interstitial fluid. In one preferred embodiment, the article (10) is a multiple-layer element comprising: (1) a layer (15) that is capable of being placed in contact with the skin of a patient; (2) a layer (16) that is coated over the skin-contacting layer (15); (3) a layer (18), substantially coplanar with the overcoat layer (16), that is capable of transporting interstitial fluid by means of chemically aided wicking; (4) a layer (20), overlying the interstitial fluid transporting layer (18), that is capable of being placed in contact with a meter (28), said layer having an opening (24) therein through which light can be transmitted; (5) a layer (28), disposed on the surface of the meter-contacting layer (20) that faces the skin-contacting layer (15), that is capable of detecting the presence of analyte or measuring the amount of analyte in the fluid. In order to use the multiple-layer (18) element (10), light from a source of light is transmitted through the opening (24) in the multiple-layer material to be absorbed at a light-absorbing target (22) on the skin-contacting layer (15). This light transfers energy to the target (22), and this transferred energy causes an opening to form in the skin-contacting layer (15) and an opening to form in the stratum corneum. Interstitial fluid exudes from the opening in the stratum corneum and contacts the interstitial fluid transporting layer (18). The interstitial fluid then moves along or through the interstitial fluid transporting layer (18) to the detecting layer (28).

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : A61B 10/00, 5/00, A61K 41/00, A61M 37/00, G01N 33/50 — A1

(11) International Publication Number: WO 99/44507

(43) International Publication Date: 10 September 1999 (10.09.99)

(21) International Application Number: PCT/US99/04983

(22) International Filing Date: 5 March 1999 (05.03.99)

(30) Priority Data:
60/077,135 6 March 1998 (06.03.98) US

(71) Applicants *(for all designated States except US)*: SPECTRX, INC. [US/US]; 6000A Unity Drive, Norcross, GA 30071 (US). ALTEA TECHNOLOGIES, INC. [US/US]; 6015A Unity Drive, Norcross, GA 30071 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: EPPSTEIN, Jonathan, A. [US/US]; 2844 Jasmine Court, Atlanta, GA 30345 (US). SAMUELS, Mark [US/US]; 4400 Missendell Lane, Norcross, GA 30092 (US). HATCH, Michael, R. [US/US]; 131 Price Hills Trail, Sugar Hill, GA 30518 (US).

(74) Agents: FLOAM, D., Andrew et al.; Needle & Rosenberg, P.C., 127 Peachtree Street, N.E., Atlanta, GA 30303 (US).

(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published

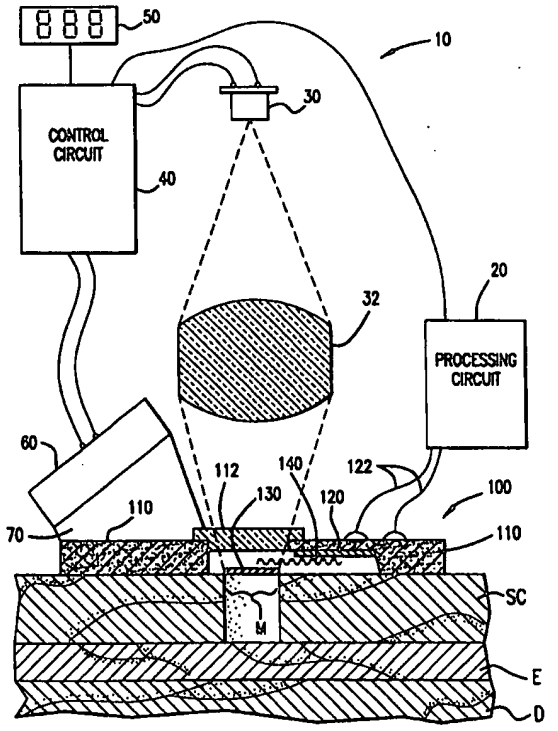
With international search report.

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: INTEGRATED TISSUE PORATION, FLUID HARVESTING AND ANALYSIS DEVICE, AND METHOD THEREFOR

(57) Abstract

An integrated device (100, 200, 300, 400, 600, 1000) for harvesting a biological fluid from the tissue and analysis of the biological fluid. The device comprises a layer having a porating element disposed thereon to form at least one opening in the tissue. Biological fluid is harvested from the opening of the tissue and placed in contact with a sensor incorporated in the integrated device. The sensor is responsive to the biological fluid to provide an indication of a characteristic of the biological fluid, such as the concentration of an analyte in interstitial fluid. The porating element may comprise one or more heat conducting elements that are either optically or electrically heated, or one or more mechanical porating elements.



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L28: Entry 1 of 2 File: EPAB Sep 10, 1999

PUB-NO: WO009944507A1
DOCUMENT-IDENTIFIER: WO 9944507 A1
TITLE: INTEGRATED TISSUE PORATION, FLUID HARVESTING AND ANALYSIS DEVICE, AND METHOD THEREFOR

PUBN-DATE: September 10, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
EPPSTEIN, JONATHAN A	US
SAMUELS, MARK	US
HATCH, MICHAEL R	US

ASSIGNEE-INFORMATION:

NAME	COUNTRY
SPECTRX INC	US
ALTEA TECHNOLOGIES INC	US
EPPSTEIN JONATHAN A	US
SAMUELS MARK	US
HATCH MICHAEL R	US

APPL-NO: US09904983
APPL-DATE: March 5, 1999

PRIORITY-DATA: US07713598P (March 6, 1998)

INT-CL (IPC): A61 B 10/00; A61 B 5/00; A61 K 41/00; A61 M 37/00; G01 N 33/50
EUR-CL (EPC): A61K041/00; A61B005/00

ABSTRACT:

CHG DATE=19991002 STATUS=O>An integrated device (100, 200, 300, 400, 600, 1000) for harvesting a biological fluid from the tissue and analysis of the biological fluid. The device comprises a layer having a porating element disposed thereon to form at least one opening in the tissue. Biological fluid is harvested from the opening of the tissue and placed in contact with a sensor incorporated in the integrated device. The sensor is responsive to the biological fluid to provide an indication of a characteristic of the biological fluid, such as the concentration of an analyte in interstitial fluid. The porating element may comprise one or more heat conducting elements that are either optically or electrically heated, or one or more mechanical porating elements.

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 :
A61K 41/00, A61B 10/00, A61M 37/00

A1

(11) International Publication Number: **WO 99/44637**

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(22) International Filing Date: 5 March 1999 (05.03.99)

(30) Priority Data:
09/036,053 6 March 1998 (06.03.98) US

(71) Applicants: SPECTRX, INC. [US/US]; 6000A Unity Drive, Norcross, GA 30071 (US). ALTEA TECHNOLOGIES, INC. [US/US]; 6015A Unity Drive, Norcross, GA 30071 (US).

(72) Inventor: EPPSTEIN, Jonathan, A.; 2844 Jasmine Court, Atlanta, GA 30345 (US).

(74) Agents: FLOAM, D., Andrew et al.; Needle & Rosenberg, P.C., 127 Peachtree Street, N.E., Atlanta, GA 30303 (US).

(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published
With international search report.
Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: METHOD AND APPARATUS FOR ENHANCING FLUX RATES OF A FLUID IN A MICROPORATED BIOLOGICAL TISSUE

(57) Abstract

A method and apparatus for enhancing the flux rate of a fluid through a biological membrane. The method includes the steps of porating a section of the tissue to form one or more micropores in the tissue, and applying a flux enhancer to the tissue through the one or more micropores. The resulting enhancement of fluid flux in the tissue enables more effective harvesting from the body of fluids, as well as more effective delivery of a drug.

WEST

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L29: Entry 1 of 2 File: EPAB Sep 10, 1999

PUB-NO: WO009944637A1
DOCUMENT-IDENTIFIER: WO 9944637 A1
TITLE: METHOD AND APPARATUS FOR ENHANCING FLUX RATES OF A FLUID IN A MICROPORATED BIOLOGICAL TISSUE

PUBN-DATE: September 10, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
EPPSTEIN, JONATHAN A	

ASSIGNEE-INFORMATION:

NAME	COUNTRY
SPECTRX INC	US
ALTEA TECHNOLOGIES INC	US

APPL-NO: US09904798
APPL-DATE: March 5, 1999

PRIORITY-DATA: US03605398A (March 6, 1998)

INT-CL (IPC): A61 K 41/00; A61 B 10/00; A61 M 37/00
EUR-CL (EPC): A61B010/00; A61K041/00

ABSTRACT:

CHG DATE=19991002 STATUS=O>A method and apparatus for enhancing the flux rate of a fluid through a biological membrane. The method includes the steps of porating a section of the tissue to form one or more micropores in the tissue, and applying a flux enhancer to the tissue through the one or more micropores. The resulting enhancement of fluid flux in the tissue enables more effective harvesting from the body of fluids, as well as more effective delivery of a drug.

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : A61K 41/00, A61B 10/00, A61M 37/00 — A1

(11) International Publication Number: **WO 99/44638**

(43) International Publication Date: 10 September 1999 (10.09.99)

(21) International Application Number: PCT/US99/04929

(22) International Filing Date: 5 March 1999 (05.03.99)

(30) Priority Data:
60/077,135 6 March 1998 (06.03.98) US

(71) Applicants *(for all designated States except US)*: SPECTRX, INC. [US/US]; 6000A Unity Drive, Norcross, GA 30071 (US). ALTEA TECHNOLOGIES, INC. [US/US]; 6015A Unity Drive, Norcross, GA 30071 (US).

(72) Inventor; and
(75) Inventor/Applicant *(for US only)*: EPPSTEIN, Jonathan, A. [US/US]; 2844 Jasmine Court, Atlanta, GA 30345 (US).

(74) Agents: FLOAM, D., Andrew et al.; Needle & Rosenberg, P.C., 127 Peachtree Street, N.E., Atlanta, GA 30303 (US).

(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published
With international search report.
Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: PHOTOTHERMAL STRUCTURE FOR BIOMEDICAL APPLICATIONS, AND METHOD THEREFOR

(57) Abstract

A photothermal structure designed for the uniform application of a photothermal material, such as, for example, a dye or a pigment, to a tissue, e.g., the stratum corneum. In one embodiment, the photothermal structure comprises photothermal material combined with a carrier, such as, for example, an adhesive or an ink, and the resulting combination is applied to a substrate, such as, for example, an inert polymeric substrate to form a photothermal structure. In another embodiment, the photothermal structure comprises photothermal material incorporated into a film–forming polymeric material.

WEST

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L31: Entry 1 of 1 File: DWPI Mar 11, 2003

DERWENT-ACC-NO: 1999-540746
DERWENT-WEEK: 200321
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TITLE: New structure for photothermal treatment of tissue, useful e.g. for the ablation of tissue (e.g. the stratum corneum), such as for the creation of micropores to gain access to body fluids for diagnostic applications

INVENTOR: EPPSTEIN, J A; HATCH, M R ; SAMUELS, M A ; YANG, D

PATENT-ASSIGNEE: ALTEA TECHNOLOGIES INC (ALTEN), SPECTRX INC (SPECN), EPPSTEIN J A (EPPSI), HATCH M R (HATCI), SAMUELS M A (SAMUI), YANG D (YANGI)

PRIORITY-DATA: 1998US-077135P (March 6, 1998), 1993US-0152442 (November 15, 1993), 1993US-0152174 (December 8, 1993), 1995US-0520547 (August 29, 1995), 1995US-008043P (October 30, 1995), 1997US-0776863 (September 5, 1997), 1998US-0208166 (December 9, 1998), 1999US-0263464 (March 5, 1999), 2000US-0570334 (May 15, 2000), 2002US-0084763 (February 21, 2002), 2000US-0622427 (October 20, 2000)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 6530915 B1	March 11, 2003		000	A61B018/20
WO 9944638 A1	September 10, 1999	E	023	A61K041/00
AU 9928986 A	September 20, 1999		000	
EP 1059938 A1	December 20, 2000	E	000	A61K041/00
JP 2002505305 W	February 19, 2002		025	A61K045/00
US 20020169394 A1	November 14, 2002		000	A61B005/00

DESIGNATED-STATES: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
US 6530915B1	March 6, 1998	1998US-077135P	Provisional
US 6530915B1	March 5, 1999	1999WO-US04929	
US 6530915B1	October 20, 2000	2000US-0622427	
US 6530915B1		WO 9944638	Based on
WO 9944638A1	March 5, 1999	1999WO-US04929	
AU 9928986A	March 5, 1999	1999AU-0028986	
AU 9928986A		WO 9944638	Based on
EP 1059938A1	March 5, 1999	1999EP-0909882	
EP 1059938A1	March 5, 1999	1999WO-US04929	
EP 1059938A1		WO 9944638	Based on
JP2002505305W	March 5, 1999	1999WO-US04929	
JP2002505305W	March 5, 1999	2000JP-0534239	
JP2002505305W		WO 9944638	Based on
US20020169394A1	November 15, 1993	1993US-0152442	CIP of
US20020169394A1	December 8, 1993	1993US-0152174	CIP of
US20020169394A1	August 29, 1995	1995US-0520547	CIP of
US20020169394A1	October 30, 1995	1995US-008043P	Provisional
US20020169394A1	September 5, 1997	1997US-0776863	Cont of
US20020169394A1	March 6, 1998	1998US-077135P	Provisional
US20020169394A1	December 9, 1998	1998US-0208166	Cont of
US20020169394A1	March 5, 1999	1999US-0263464	CIP of
US20020169394A1	May 15, 2000	2000US-0570334	CIP of
US20020169394A1	February 21, 2002	2002US-0084763	
US20020169394A1		US 5445611	CIP of
US20020169394A1		US 5458140	CIP of
US20020169394A1		US 5885211	Cont of
US20020169394A1		US 6142939	Cont of

INT-CL (IPC): A61 B 5/00; A61 B 10/00; A61 B 18/20; A61 K 41/00; A61 K 45/00; A61 M 37/00

RELATED-ACC-NO: 1995-310794;1995-365409 ;1997-178866 ;1998-178086 ;1999-550973 ;1999-550974 ;2000-182505 ;2000-182506 ;2000-271186

ABSTRACTED-PUB-NO: WO 9944638A
BASIC-ABSTRACT:

NOVELTY - Photothermal structure for treating tissue comprises photothermal material uniformly dissolved or suspended in a carrier which is applied to a substrate.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(i) a photothermal structure for treating tissue comprising photothermal material and a film material containing a uniform suspension of the photothermal material; and

(ii) a method for treating tissue comprising applying a photothermal structure including photothermal material to tissue and subjecting the structure to electromagnetic radiation.

USE - The photothermal structures are useful for the ablation of tissue (e.g. the stratum corneum), such as for the creation of micropores to gain access to body fluids for diagnostic applications (e.g. in glucose monitoring). Poration can also be used to increase the permeability of drugs or bioactive agents. The photothermal structure can be used in surgical applications such as the treatment of surface

lesions or tattoos.

ADVANTAGE - The photothermal structures overcome prior art problems by their means of application and they deploy photothermal material so that it can be readily removed from tissue and discarded following photothermal treatment. Results are reproducible.

ABSTRACTED-PUB-NO: WO 9944638A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.0/3

DERWENT-CLASS: A96 B04 P31 P34 S05
CPI-CODES: A12-V03C2; B04-C02A; B04-C03B; B04-C03D; B05-A03A; B05-C06; B06-D18; B12-M02C; B12-M02D; B12-M02F; B14-N17;

CORRECTED VERSION*

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : A61B 5/00

A1

(11) International Publication Number: WO 00/15102

(43) International Publication Date: 23 March 2000 (23.03.00)

(21) International Application Number: PCT/US99/20796

(22) International Filing Date: 10 September 1999 (10.09.99)

(30) Priority Data:

60/099,733	10 September 1998 (10.09.98)	US
60/140,283	18 June 1999 (18.06.99)	US
60/140,285	18 June 1999 (18.06.99)	US

(81) Designated States: CA, JP, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

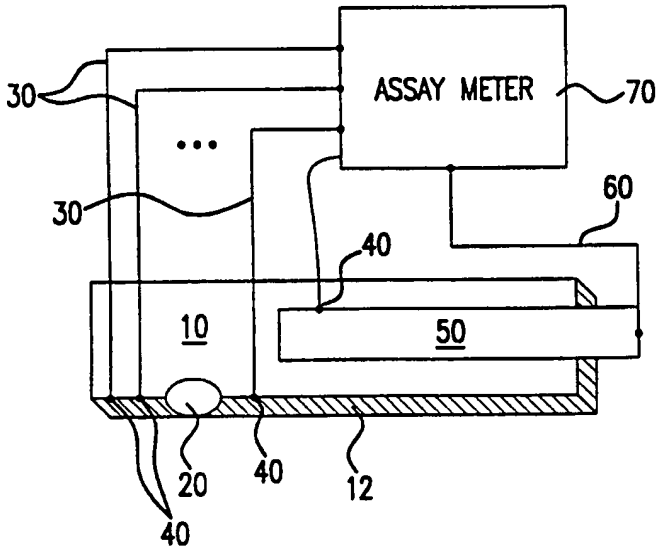
Published
With international search report.

(71) Applicant *(for all designated States except US)*: SPECTRX, INC. [US/US]; 6000A Unity Drive, Norcross, GA 30071 (US).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: HATCH, Michael, R. [US/US]; 131 Price Hills Trail, Sugar Hill, GA 30518 (US). EPPSTEIN, Jonathan, A. [US/US]; 2844 Jasmine Court, Atlanta, GA 30345 (US). MCRAE, Stuart [US/US]; 1438 Montevallo Circle, Atlanta, GA 30033 (US).

(74) Agents: FLOAM, D., Andrew et al.; Needle & Rosenberg, P.C., The Candler Building, Suite 1200, 127 Peachtree Street, N.E., Atlanta, GA 30303-1811 (US).

(54) Title: ATTRIBUTE COMPENSATION FOR ANALYTE DETECTION AND/OR CONTINUOUS MONITORING



(57) Abstract

A system and method for detecting a measuring an analyte in a biological fluid of an animal. A harvesting device (10) is provided suitable for positioning on the surface of tissue of an animal to harvest biological fluid therefrom. The harvesting device (10) comprises an analyte sensor (50) positioned to be contacted by the harvested biological fluid and which generates a measurement signal representative of the analyte. At least one attribute sensor (40) is provided to measure an attribute associated with the biological fluid harvesting operation of the harvesting device (10) or the assay of the biological fluid, and which generates an attribute signal representative of the attribute. Adjustments are made to operational parameters of the harvesting device (10) based on the one or more attributes.

*(Referred to in PCT Gazette No. 40/2000, Section II)

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L36: Entry 1 of 1 File: DWPI Mar 23, 2000

DERWENT-ACC-NO: 2000-271186
DERWENT-WEEK: 200305
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TITLE: Device for measuring e.g. blood glucose, has analyte sensor contacting harvested blood sample and attribute sensor(s) detecting operation of device

INVENTOR: EPPSTEIN, J A; HATCH, M R ; MCRAE, S

PATENT-ASSIGNEE: ALTEA TECHNOLOGIES (ALTEN), SPECTRX INC (SPECN), ALTEA TECHNOLOGIES INC (ALTEN)

PRIORITY-DATA: 1999US-140285P (June 18, 1999), 1998US-099733P (September 10, 1998), 1999US-140283P (June 18, 1999), 2001BR-0002366 (March 23, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 200015102 A1	March 23, 2000	E	023	A61B005/00
EP 1112021 A1	July 4, 2001	E	000	A61B005/00
AU 200135107 A	January 3, 2002		000	A61B005/00
BR 200102366 A	December 3, 2002		000	G01N001/02

DESIGNATED-STATES: CA JP US AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
WO 200015102A1	September 10, 1999	1999WO-US20796	
EP 1112021A1	September 10, 1999	1999EP-0945635	
EP 1112021A1	September 10, 1999	1999WO-US20796	
EP 1112021A1		WO 200015102	Based on
AU 200135107A	April 10, 2001	2001AU-0035107	
BR 200102366A	March 23, 2001	2001BR-0002366	

INT-CL (IPC): A61 B 5/00; G01 N 1/02

RELATED-ACC-NO: 1995-310794;1995-365409 ;1997-178866 ;1998-178086 ;1999-540746 ;1999-550973 ;1999-550974 ;2000-182505 ;2000-182506

ABSTRACTED-PUB-NO: WO 200015102A
BASIC-ABSTRACT:

NOVELTY - A device (10) has an analyte sensor (50) contacting a harvested biological fluid sample and attribute sensor(s) (40) detecting the operation of the device.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(a) a system including a device as above for harvesting a biological fluid sample from adjacent surface tissue (12) and a processor receiving the outputs from all the sensors and adjusting an operating parameter of the harvesting device according to the output of the attribute sensor(s);

(b) measuring an analyte in a biological fluid as in (a).

Preferred Features: The attribute sensors monitor the temperature of the analyte sensor and a condition of the body tissue relating to fluid productivity.

USE - For measuring an analyte in a biological fluid. Specifically for measuring blood glucose (claimed).

ADVANTAGE - Compensation for operating conditions of the harvesting device is made automatically.

DESCRIPTION OF DRAWING(S) - The figure is a block diagram illustrating an embodiment of the invention.

ABSTRACTED-PUB-NO: WO 200015102A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/7

DERWENT-CLASS: B04 J04 P31
CPI-CODES: B04-B04B; B04-B04D5; B10-A07; B11-C08; B12-K04A; J04-B01;

(19) RÉPUBLIQUE FRANÇAISE

INSTITUT NATIONAL
DE LA PROPRIÉTÉ INDUSTRIELLE

PARIS

(11) N° de publication : 2 783 169
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(21) N° d'enregistrement national : 98 11533

(51) Int Cl[7] : A 61 K 7/48, A 61 K 38/08

(12) DEMANDE DE BREVET D'INVENTION A1

(22) Date de dépôt : 15.09.98.

(30) Priorité :

(43) Date de mise à la disposition du public de la demande : 17.03.00 Bulletin 00/11.

(56) Liste des documents cités dans le rapport de recherche préliminaire : *Se reporter à la fin du présent fascicule*

(60) Références à d'autres documents nationaux apparentés :

(71) Demandeur(s) : *SEDERMA SA Société anonyme* — FR.

(72) Inventeur(s) : LINTNER KARL.

(73) Titulaire(s) :

(74) Mandataire(s) :

(54) UTILISATION COSMETIQUE OU DERMOPHARMACEUTIQUE DE PEPTIDES POUR LA CICATRISATION ET POUR L'AMELIORATION DE L'ASPECT CUTANE LORS DU VIEILLISSEMENT NATUREL OU ACCELERE (HELIODERMIE, POLLUTION).

(57) Le brevet décrit l'utilisation du peptide Lys-Thr-Thr-Lys-X, avec notamment X = Ser, dans des compositions cosmétiques ou dermopharmaceutiques. De plus il peut être avantageux d'utiliser ces peptides en combinaison entre eux.

Quand le pentapeptide est modifié chimiquement pour augmenter sa lipophilie (formes acylée: N-Palmitoyl-Lys-Thr-Thr-Lys-X, et notamment le N-Palmitoyl-Lys-Thr-Thr-Lys-Ser, ou après estérification du groupe carboxyle), son activité et sa stabilité sont renforcées. Le pentapeptide peut être obtenu par synthèse, par biotechnologie ou par hydrolyse ménagée de protéines végétales.

Les compositions obtenues sont avantageusement utilisées pour favoriser la cicatrisation et pour améliorer l'aspect cutané lors du vieillissement naturel ou accéléré par les agressions solaires ou la pollution.

FR 2 783 169 - A1

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L37: Entry 1 of 1 File: DWPI Aug 6, 2002

DERWENT-ACC-NO: 2000-248451
DERWENT-WEEK: 200266
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TITLE: Use of pentapeptides in cosmetic or dermatological compositions for improving skin appearance and tone and aiding wound healing

INVENTOR: LINTNER, K

PATENT-ASSIGNEE: SEDERMA (SEDEN), SEDERMA SA (SEDEN)

PRIORITY-DATA: 1998FR-0011533 (September 15, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 2002524487 W	August 6, 2002		022	C07K007/06
FR 2783169 A1	March 17, 2000		014	A61K007/48
WO 200015188 A1	March 23, 2000	F	000	A61K007/48
AU 9956279 A	April 3, 2000		000	A61K007/48
EP 1112057 A1	July 4, 2001	F	000	A61K007/48

DESIGNATED-STATES: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP2002524487W	September 13, 1999	1999WO-FR02178	
JP2002524487W	September 13, 1999	2000JP-0569773	
JP2002524487W		WO 200015188	Based on
FR 2783169A1	September 15, 1998	1998FR-0011533	
WO 200015188A1	September 13, 1999	1999WO-FR02178	
AU 9956279A	September 13, 1999	1999AU-0056279	
AU 9956279A		WO 200015188	Based on
EP 1112057A1	September 13, 1999	1999EP-0942962	
EP 1112057A1	September 13, 1999	1999WO-FR02178	
EP 1112057A1		WO 200015188	Based on

INT-CL (IPC): A61 K 7/00; A61 K 7/48; A61 K 38/00; A61 K 38/08; A61 P 17/16; A61 P 43/00; C07 K 7/06

ABSTRACTED-PUB-NO: FR 2783169A
BASIC-ABSTRACT:

NOVELTY - Use of pentapeptides (I) comprising a pentameric sequence given in the specification, in cosmetic or dermatological compositions, is new.

DETAILED DESCRIPTION - Use of pentapeptides of formula (I) in cosmetic or dermatological compositions, is new.

Lys-Thr-Thr-Lys-X (I)

Where:

X = any natural amino acid.

An INDEPENDENT CLAIM is also included for cosmetic compositions containing (I).

ACTIVITY - Vulnerary.

MECHANISM OF ACTION - Collagen biosynthesis promoter; glycosaminoglycan biosynthesis promoter.

Human skin explants cultured in a medium containing 2, 4 or 8 ppm pentapeptide (unspecified) for 72 hours as described in Skin Pharmacol., 10, 63 (1997) exhibited a 34.4, 59.1 and 95.3% increase, respectively, in 3H-proline uptake compared with controls.

USE - The compositions promote collagen glycosaminoglycan biosynthesis and are useful for improving the appearance of the skin, especially in cases of natural or sun-induced aging or dry skin, wound healing and improving skin tone

ABSTRACTED-PUB-NO: FR 2783169A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.0/0

DERWENT-CLASS: B04 D21
CPI-CODES: B04-A10; B04-B04L; B04-B04M; B04-C01A; B11-A02; B11-C01; B12-M02B; B12-M02E; B12-M02F; B12-M05; B12-M07; B12-M11E; B12-M11F; B12-M11G; B14-N17B; D08-B03; D08-B04; D08-B09A; D08-B11; D08-B13;

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : A61M 37/00 — A1

(11) International Publication Number: WO 00/35530

(43) International Publication Date: 22 June 2000 (22.06.00)

(21) International Application Number: PCT/US99/29925

(22) International Filing Date: 15 December 1999 (15.12.99)

(30) Priority Data:
60/112,691 18 December 1998 (18.12.98) US
09/460,121 13 December 1999 (13.12.99) US

(71) Applicant: MINIMED INC. [US/US]; 12744 San Fernando Road, Sylmar, CA 91342 (US).

(72) Inventors: MCCONNELL, Susan, M.; 4635 Gershwin Place, Woodland Hills, CA 91364 (US). LORD, Peter, C.; 25505 Old Course Way, Valencia, CA 91355 (US). LIVINGSTON, John, H.; 31 Augusta Lane, Newport Beach, CA 92660 (US). KOVELMAN, Paul, H.; 5344 Seneca Place, Simi Valley, CA 93063 (US).

(74) Agent: KOVELMAN, Paul, H.; MiniMed, Inc., 12744 San Fernando Road, Sylmar, CA 91342 (US).

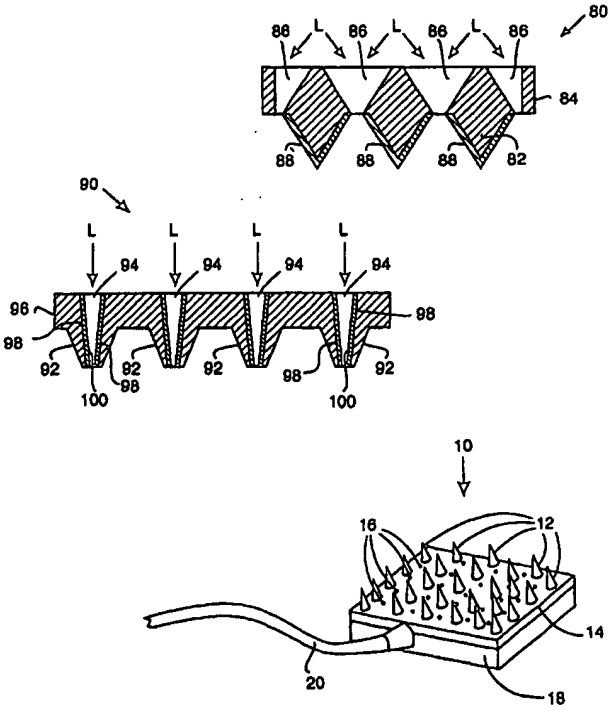
(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published
With international search report.
Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: INSERTION SETS WITH MICRO-PIERCING MEMBERS FOR USE WITH MEDICAL DEVICES AND METHODS OF USING THE SAME

(57) Abstract

An insertion set for essentially painless insertion through tissue includes a substrate and at least one micro-piercing member. The at least one micro-piercing member is coupled to the substrate to form a patch. In addition, the at least one micro-piercing member has a predetermined length to pierce the material to a predetermined depth to interact with the tissue. In particular embodiments, the insertion set also includes a control structure within the insertion set for controlling the flow of fluid relative to the substrate and the at least one micro-piercing member of the insertion set. In addition, the insertion set may include or utilize methods or structures for maintaining the insertion set on the tissue for a predetermined period of time. Preferably, the predetermined length of the at least one micro-piercing member is long enough to pierce the tissue, and yet short enough to avoid contacting the nerves in the tissue. The insertion set may also include a light controlling structure within the insertion set for controlling the entry of light relative to the substrate and the at least one micro-piercing member of the insertion set. Some types of insertion sets may include a fluorescent analyte detection compound (or other detection compound) to detect the level of an analyte in the tissue, while other insertion sets are an infusion set for infusing a liquid into the tissue.



End of Result Set

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L38: Entry 1 of 1 File: DWPI Oct 2, 2002

DERWENT-ACC-NO: 2000-442291
DERWENT-WEEK: 200279
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TITLE: Insertion set for drug delivery taking small blood sample, etc. has patch formed by micropiercing member(s) coupled to substrate

INVENTOR: KOVELMAN, P H; LIVINGSTON, J H ; LORD, P C ; MCCONNELL, S M

PATENT-ASSIGNEE: MINIMED INC (MININ)

PRIORITY-DATA: 1999US-0460121 (December 13, 1999), 1998US-112691P (December 18, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 2002532165 W	October 2, 2002		037	A61M037/00
WO 200035530 A1	June 22, 2000	E	038	A61M037/00
AU 200021894 A	July 3, 2000		000	A61M037/00
EP 1140275 A1	October 10, 2001	E	000	A61M037/00

DESIGNATED-STATES: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP2002532165W	December 15, 1999	1999WO-US29925	
JP2002532165W	December 15, 1999	2000JP-0587847	
JP2002532165W		WO 200035530	Based on
WO 200035530A1	December 15, 1999	1999WO-US29925	
AU 200021894A	December 15, 1999	2000AU-0021894	
AU 200021894A		WO 200035530	Based on
EP 1140275A1	December 15, 1999	1999EP-0966326	
EP 1140275A1	December 15, 1999	1999WO-US29925	
EP 1140275A1		WO 200035530	Based on

INT-CL (IPC): A61 M 37/00

ABSTRACTED-PUB-NO: WO 200035530A
BASIC-ABSTRACT:

NOVELTY - An insertion set comprising a patch formed by micropiercing member(s) coupled to a substrate, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) a set as above having more than one piercing member and a control structure

within the set controlling a fluid flow relative to the substrate and members; and

(b) a self-lancing test strip having an analyte strip coupled to the substrate of (a) to receive fluid from the control structure.

USE - The insertion set is useful for drug delivery and taking small blood samples for glucose measurement.

ADVANTAGE - The set is effective and does not cause the patient discomfort.

DESCRIPTION OF DRAWING(S) - The drawing shows an insertion set

piercing members 12

substrate 14

holes 16

medication chamber 18

supply tube 20

ABSTRACTED-PUB-NO: WO 200035530A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.2/21

DERWENT-CLASS: B07 P34
CPI-CODES: B11-C04;

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : A61B 5/00 | A1

(11) International Publication Number: WO 00/04821

(43) International Publication Date: 3 February 2000 (03.02.00)

(21) International Application Number: PCT/US99/16226

(22) International Filing Date: 20 July 1999 (20.07.99)

(30) Priority Data:

60/093,534	21 July 1998 (21:07.98)	US
09/263,464	5 March 1999 (05.03.99)	US
60/138,739	11 June 1999 (11.06.99)	US
60/139,970	18 June 1999 (18.06.99)	US

(71) Applicant: SPECTRX, INC. [US/US]; 6000A Unity Drive, Norcross, GA 30071 (US).

(72) Inventors: SMITH, Alan; 1201 Asbury Square, Atlanta, GA 30346 (US). DELCHER, Harry, K.; 2639 Hummingbird Drive, Duluth, GA 30096 (US). EPPSTEIN, Jonathan, A.; 2844 Jasmine Court, Atlanta, GA 30345 (US). FARQUHAR, David; 234 Craig Road, Commerce, GA 30530 (US). HATCH, Michael, R.; 131 Price Hills Trail, Sugarhill, GA 30518 (US). KUMAR, Krishna, S.; Apartment E, 1020 Court Drive, Duluth, GA 30096 (US).

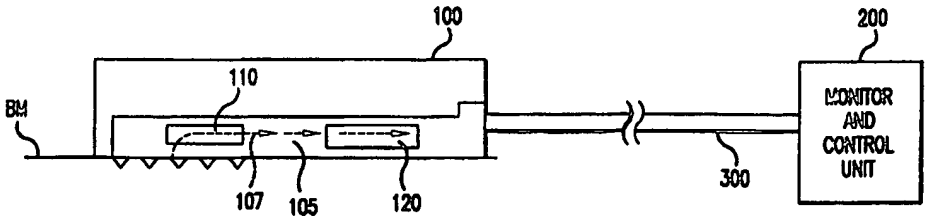
(74) Agents: FLOAM, D., Andrew et al.; Needle & Rosenberg, P.C., The Candler Building, Suite 1200, 127 Peachtree Street, N.E., Atlanta, GA 30303–1811 (US).

(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published

With international search report.

(54) Title: FLUID MANAGEMENT IN A CONTINUOUS FLUID COLLECTION AND SENSOR DEVICE



(57) Abstract

A fluid collection and sensor device for placement over at least one artificial opening made in a biological membrane for measuring a characteristic of a biological fluid collected from the tissue through the at least one artificial opening. The device comprises a sensor (110) positioned in a flow path (105) of the biological fluid for contacting a quantity of the biological fluid and generating an indication of a characteristic of the biological fluid. According to one aspect of the invention, a waste fluid storage element (120), such as a reservoir, is positioned in the device (100) to collect the biological fluid after it has made contact with the sensor (110). According to another aspect of the invention, various surfaces of the fluid flow path (105) of the fluid collection and sensor device (100) are treated with an agent to limit or minimize clotting, aggregation or sepsis of the biological fluid, blockage or clogging of the flow path (105) or degradation of the sensor (110). According to still another aspect of the invention, various configurations of a fluid sensor and collection device (100) are provided that are designed to ensure that measurements are made on independent fluid samples.

End of Result Set

☐ Generate Collection

L40: Entry 1 of 1 File: DWPI Feb 3, 2000

DERWENT-ACC-NO: 2000-182505
DERWENT-WEEK: 200278
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TITLE: Fluid collection and sensor device for measuring a characteristic of a biological fluid collected from a tissue through an artificial opening

INVENTOR: EPPSTEIN, J A; HATCH, M R ; SAMUELS, M A ; DELCHER, H K ; FARQUHAR, D ; KUMAR, K S ; SMITH, A

PATENT-ASSIGNEE: SPECTRX INC (SPECN), ALTEA TECHNOLOGIES INC (ALTEN)

PRIORITY-DATA: 1999US-139970P (June 18, 1999), 1998US-093534P (July 21, 1998), 1999US-0263464 (March 5, 1999), 1999US-138739P (June 11, 1999), 1999US-140252P (June 18, 1999), 1999US-140285P (June 18, 1999)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 200004821 A1	February 3, 2000	E	040	A61B005/00
AU 9951106 A	February 14, 2000		000	A61B005/00
BR 9912333 A	April 17, 2001		000	A61B010/00
BR 9912339 A	April 17, 2001		000	A61B005/00
EP 1098589 A1	May 16, 2001	E	000	A61B005/00
JP 2002521077 W	July 16, 2002		040	A61B005/145

DESIGNATED-STATES: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
WO 200004821A1	July 20, 1999	1999WO-US16226	
AU 9951106A	July 20, 1999	1999AU-0051106	
AU 9951106A		WO 200004821	Based on
BR 9912333A	July 20, 1999	1999BR-0012333	
BR 9912333A	July 20, 1999	1999WO-US16378	
BR 9912333A		WO 200004832	Based on
BR 9912339A	July 20, 1999	1999BR-0012339	
BR 9912339A	July 20, 1999	1999WO-US16226	
BR 9912339A		WO 200004821	Based on
EP 1098589A1	July 20, 1999	1999EP-0935678	
EP 1098589A1	July 20, 1999	1999WO-US16226	
EP 1098589A1		WO 200004821	Based on
JP2002521077W	July 20, 1999	1999WO-US16226	
JP2002521077W	July 20, 1999	2000JP-0560818	
JP2002521077W		WO 200004821	Based on

INT-CL (IPC): A61 B 5/00; A61 B 5/145; A61 B 10/00; G01 N 33/48

RELATED-ACC-NO: 1995-310794;1995-365409 ;1997-178866 ;1998-178086 ;1999-540746 ;1999-550973 ;1999-550974 ;2000-182506 ;2000-271186

ABSTRACTED-PUB-NO: WO 200004821A
BASIC-ABSTRACT:

NOVELTY - Fluid collection and sensor device (100) comprises a sensor (110) in a flow path (105) of the fluid for contacting the fluid and generating a fluid characteristic and a reservoir in the device to collect the biological fluid after its contact with sensor.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a method for monitoring a characteristic of a biological fluid collected from an artificial opening in tissue which comprises continuously applying suction to the flow path (105) for fluid from tissue to draw fluid along the flow path (105), continuously sensing a characteristic of fluid flowing along the path and storing the fluid in the reservoir (120) after it is sensed.

USE - Used for placement over an artificial opening made in a biological membrane to measure a characteristic of a biological fluid collected from the tissue through the opening.

ADVANTAGE - Accurate sensor measurements are obtained by efficiently obtaining readings. The device is designed to ensure that measurements are made on independent fluid samples.

DESCRIPTION OF DRAWING(S) - The figure shows a schematic diagram of a fluid collection and sensor device with a waste fluid collection element in a continuous monitoring system.

Fluid collection and sensor device 100

Flow path 105

Sensor 110

Reservoir 120

ABSTRACTED-PUB-NO: WO 200004821A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/16

DERWENT-CLASS: B04 P31
CPI-CODES: B11-C08C; B12-K04A;

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

CORRECTED VERSION

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
12 October 2000 (12.10.2000)

PCT

(10) International Publication Number
WO 00/59373 A1

(51) International Patent Classification[7]: A61B 5/00

(21) International Application Number: PCT/US00/09393

(22) International Filing Date: 7 April 2000 (07.04.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

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60/139,976	18 June 1999 (18.06.1999)	US
60/165,809	16 November 1999 (16.11.1999)	US
60/182,698	15 February 2000 (15.02.2000)	US

(71) Applicant *(for all designated States except US)*: **SPECTRX, INC.** [US/US]; 6000A Unity Drive, Norcross, GA 30071 (US).

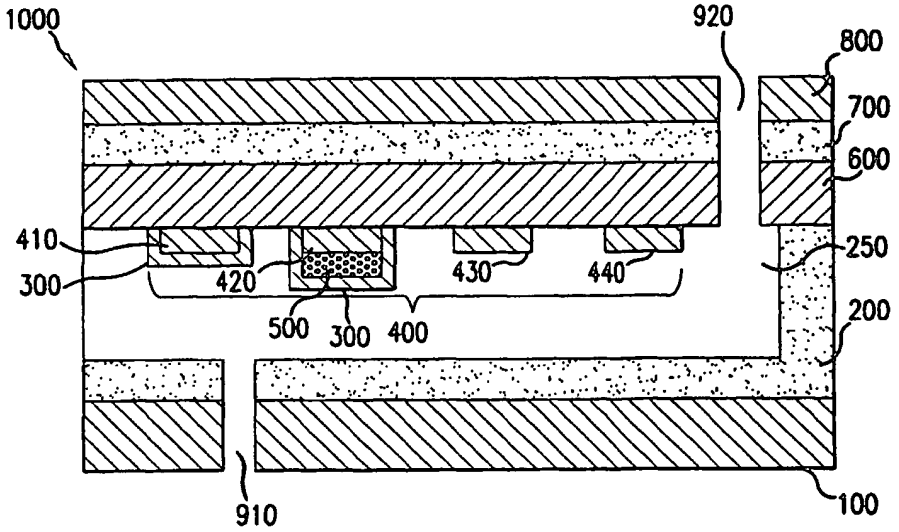
(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **KUMAR, Krishna,** S. [IN/US]; Apartment E, 1020 Court Drive, Duluth, GA 30096 (US). **PAPP, Joseph** [US/US]; 1010 Wesley Plantation Drive, Duluth, GA 30096 (US). **FARQUHAR, J., David** [US/US]; 234 Craig Road, Commerce, GA 30530 (US). **TAYLOR, Lance** [US/US]; 2381 Lakeside Place, Marietta, GA 30008 (US). **SMITH, Alan, M.** [US/US]; 736 Greenview Avenue, NE, Atlanta, GA 30305-2733 (US). **VREEKE, Mark, S.** [US/US]; 11595 Harbridge Drive, Granger, IN 46530 (US). **HATCH, Michael, R.** [US/US]; 131 Price Hills Trail, Sugar Hill, GA 30518 (US). **SCHIFFER, Jarad** [US/US]; 1195 Woods Cricle, Atlanta, GA 30324 (US). **FAUPEL, Mark, L.** [US/US]; 160 Foalgarth Way, Alpharetta, GA 30022 (US). **CONNOLLY, James** [US/US]; 1924 Marsh Creek Drive, Lawrenceville, GA 30243 (US).

(74) Agents: **FLOAM, D., Andrew** et al.; Needle & Rosenberg, P.C., The Candler Building, Suite 1200, 127 Peachtree Street, N.E., Atlanta, GA 30303-1811 (US).

(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE,

[Continued on next page]

(54) Title: ASSAY DEVICE FOR MEASURING CHARACTERISTICS OF A FLUID ON A CONTINUAL BASIS



(57) Abstract: The present invention is directed at an assay device for detecting and enabling measurement of an analyte in a fluid. The assay device contains: a) an inlet port to receive fluid; b) a well in fluid communication with the inlet port; c) an outlet port in fluid communication with the well, wherein the outlet port is designed to allow discharge of the fluid; d) at least one first working electrode and at least one reference electrode disposed within the well; e) a quantity of reactant that reacts with the analyte to form a reaction product, wherein the reaction product is in fluid communication with the at least one first working electrode; and f) at least one membrane disposed over or around the reactant to regulate contact of the analyte in the fluid with the reactant.

WO 00/59373 A1

End of Result Set

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L42: Entry 1 of 1 File: DWPI Dec 3, 2002

DERWENT-ACC-NO: 2001-060602
DERWENT-WEEK: 200309
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TITLE: Assay device for detecting an analyte in a fluid, especially to determine glucose content of blood collected from tissue on a continuous basis, comprises working and reference electrodes

INVENTOR: CONNOLLY, J; FARQUHAR, D J ; FAUPEL, M L ; HATCH, M R ; KUMAR, S ; PAPP, J ; SCIFFER, J ; SMITH, A M ; TAYLOR, L ; VREEKE, M S ; FARQUHAR, J D ; KUMAR, K S ; SCHIFFER, J

PATENT-ASSIGNEE: SPECTRX INC (SPECN)

PRIORITY-DATA: 2000US-182698P (February 15, 2000), 1999US-128198P (April 7, 1999), 1999US-139975P (June 18, 1999), 1999US-139976P (June 18, 1999), 1999US-165809P (November 16, 1999)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 2002541441 W	December 3, 2002		030	G01N027/28
WO 200059373 A1	October 12, 2000	E	032	A61B005/00
AU 200042169 A	October 23, 2000		000	A61B005/00
EP 1164925 A1	January 2, 2002	E	000	A61B005/00
BR 200009581 A	February 5, 2002		000	A61B005/00

DESIGNATED-STATES: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP2002541441W	April 7, 2000	2000JP-0608941	
JP2002541441W	April 7, 2000	2000WO-US09393	
JP2002541441W		WO 200059373	Based on
WO 200059373A1	April 7, 2000	2000WO-US09393	
AU 200042169A	April 7, 2000	2000AU-0042169	
AU 200042169A		WO 200059373	Based on
EP 1164925A1	April 7, 2000	2000EP-0921911	
EP 1164925A1	April 7, 2000	2000WO-US09393	
EP 1164925A1		WO 200059373	Based on
BR 200009581A	April 7, 2000	2000BR-0009581	
BR 200009581A	April 7, 2000	2000WO-US09393	
BR 200009581A		WO 200059373	Based on

INT-CL (IPC): A61 B 5/00; G01 N 27/28; G01 N 27/416; G01 N 33/66

ABSTRACTED-PUB-NO: WO 200059373A
BASIC-ABSTRACT:

NOVELTY - An assay device (I) for detecting an analyte in a fluid, comprising an inlet port to receive fluid, a well in fluid communication with the inlet port, an outlet port in fluid communication with the well to discharge fluid, and at least one first working electrode and at least one reference electrode dispose within the well, is new.

DETAILED DESCRIPTION - An assay device (I) for detecting an analyte in a fluid, comprising an inlet port to receive fluid, a well in fluid communication with the inlet port, an outlet port in fluid communication with the well to discharge fluid, and at least one first working electrode and at least one reference electrode dispose within the well, is new. The device further comprises a quantity of reactant that reacts with the analyte to form a reaction product which is in fluid communication with the working electrode, and at least one membrane disposed over or around the reactant to regulate contact of the analyte in the fluid with the reactant.

INDEPENDENT CLAIMS are also included for the following:

(1) a monitoring system comprising (I) and a monitoring unit coupled to the assay device, optionally the monitoring unit generates an analyte measurement from the assay device using a colorimetric or amperometric measurement technique; and

(2) an assay device for detecting and enabling measurement of an analyte in a fluid, comprising:

(a) an inlet port to receive fluid;

(b) a well in fluid communication with the inlet port;

(c) an outlet port in fluid communication with the well to discharge fluid;

(d) at least one first working electrode and at least one reference electrode disposed within the well;

(e) a quantity of reactant that reacts with the analyte to form a reaction product which is in fluid communication with the working electrode; and

(f) a calibration port in fluid communication with the well.

USE - The device is used to determine the glucose content of blood collected from tissue on a continuous/continual basis.

ABSTRACTED-PUB-NO: WO 200059373A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.0/3

DERWENT-CLASS: B04 D16 J04 P31 S03 S05
CPI-CODES: B04-B04D5; B10-A07; B11-C08B; B12-K04A; D05-H09; J04-B01;
EPI-CODES: S03-E03B2; S03-E14H; S05-C01; S05-C02;

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
14 December 2000 (14.12.2000)

PCT

(10) International Publication Number
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(51) International Patent Classification[7]: A61M 37/00, A61B 10/00

(21) International Application Number: PCT/US00/15312

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(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

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09/448,107	23 November 1999 (23.11.1999)	US
09/452,979	2 December 1999 (02.12.1999)	US
09/453,109	2 December 1999 (02.12.1999)	US

(71) Applicant: GEORGIA TECH RESEARCH CORPORATION [US/US]; 400 Tenth Street, Centennial Research Building, Atlanta, GA 30332-0414 (US).

(72) Inventors: PRAUSNITZ, Mark, R.; 417 West Howard Avenue, Decatur, GA 30030 (US). ALLEN, Mark, G.; 425 Spalding Drive, Atlanta, GA 30328 (US). HENRY, Sebastien; 1511 Vinings Parkway, Smyrna, GA 30080 (US). MCALLISTER, Devin, V.; 49 Geddes Street, Holley, NY 14470 (US). ACKLEY, Donald, E.; 2033 Cambridge Avenue, Cardiff, CA 92007 (US). GUJRAL, Inder-Jeet; 111-9 Trowbridge Street, Cambridge, MA 02138 (US). JACKSON, Thomas; 7135 Olivetas Avenue, La Jolla, CA 92037 (US).

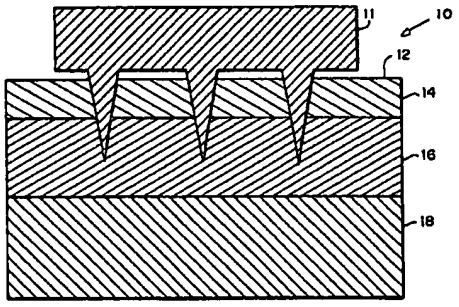
(74) Agents: PABST, Patrea, L. et al.; Arnall Golden & Gregory, LLP, 2800 One Atlantic Center, 1201 West Peachtree Street, Atlanta, GA 30309-3450 (US).

(81) Designated States *(national)*: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: DEVICES AND METHODS FOR ENHANCED MICRONEEDLE PENETRATION OF BIOLOGICAL BARRIERS



(57) Abstract: Microneedle devices are provided for delivery of drugs across biological tissue and for controlled sampling of biological fluids in a minimally-invasive, painless, and convenient manner. The devices permit 1) drug delivery at clinically relevant rates across or into skin or other tissue barriers, and/or 2) *in vivo* sensing or withdrawal of biological fluids from the body, particularly from or through the skin or other tissue barriers. Drug delivery devices preferably include a plurality of hollow microneedles attached to or integrated into a substrate, and at least one reservoir (containing drug) selectably in communication with the microneedles, wherein the amount of drug to be delivered can be selectively altered. Withdrawal or sensing microneedle devices preferably include microneedles attached to or integrated into a substrate, and at least one collection chamber and or sensor in communication with the microneedles. Preferred embodiments further include a means for inducing biological fluid, such as interstitial fluid, to be drawn through the microneedles and into the collection chamber for analysis. Also provided are microneedle devices and methods for the enhanced transport of molecules across tissue by improving the interaction of an array of microneedles and a deformable, elastic biological barrier, such as human skin. The devices and methods act to 1) limit the elasticity, 2) adapt to the elasticity, 3) utilize alternate ways of creating the holes for the microneedles to penetrate the biological barrier, other than the simply direct pressure of the microneedle substrate to the barrier surface, or 4) combination of 1)-3).

WO 00/74763 A2

End of Result Set

☐ Generate Collection

L43: Entry 1 of 1 File: DWPI Dec 14, 2000

DERWENT-ACC-NO: 2001-061662
DERWENT-WEEK: 200227
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TITLE: New devices for transport of a material across a biological barrier comprising a substrate to which hollow microneedles are attached, and a chamber for delivery or collection of a material

INVENTOR: ACKLEY, D E; ALLEN, M G ; GUJRAL, I ; HENRY, S ; JACKSON, T ; MCALLISTER, D V ; PRAUSNITZ, M R

PATENT-ASSIGNEE: GEORGIA TECH RES CORP (GEORN)

PRIORITY-DATA: 1999US-0453109 (December 2, 1999), 1999US-137621P (June 4, 1999), 1999US-146200P (July 29, 1999), 1999US-0448107 (November 23, 1999), 1999US-0452979 (December 2, 1999)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 200074763 A2	December 14, 2000	E	103	A61M037/00
EP 1187653 A2	March 20, 2002	E	000	A61M037/00
AU 200054613 A	December 28, 2000		000	A61M037/00

DESIGNATED-STATES: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
WO 200074763A2	June 2, 2000	2000WO-US15312	
EP 1187653A2	June 2, 2000	2000EP-0939538	
EP 1187653A2	June 2, 2000	2000WO-US15312	
EP 1187653A2		WO 200074763	Based on
AU 200054613A	June 2, 2000	2000AU-0054613	
AU 200054613A		WO 200074763	Based on

INT-CL (IPC): A61 B 10/00; A61 M 37/00

ABSTRACTED-PUB-NO: WO 200074763A
BASIC-ABSTRACT:

NOVELTY - A device for transporting a material across, or into, a biological barrier comprising microneedles having hollow pathways disposed at, or between, the base end and the tip, a substrate to which the base ends of the microneedles are attached or integrated, and at least one reservoir connected to the base ends the microneedles, either integrally or separably until the moment of use, is new.

DETAILED DESCRIPTION - A device for transporting a material across, or into, a

biological barrier comprising microneedles having hollow pathways disposed at, or between, the base end and the tip, a substrate to which the base ends of the microneedles are attached or integrated, and at least one reservoir connected to the base ends the microneedles, either integrally or separably until the moment of use, is new. The volume, or amount, of material to be transported can be altered.

INDEPENDENT CLAIMS are also included for the following:

(1) delivering a therapeutic, prophylactic or diagnostic agent across or into tissue comprising:

(a) inserting into the tissue one or more microneedles that are in fluid connection with at least one reservoir containing the agent to be delivered; and

(b) reducing the volume of the agent in the reservoir by driving the agent through at least one of the microneedles;

(2) a kit for delivering a therapeutic, propylactic or diagnostic agent across or into tissue, comprising:

(a) microneedle devices which comprise hollow microneedles, a substrate to which the microneedles are attached or integrated, and at least one reservoir which is selectably in communication with the microneedles, where at least one of the reservoirs contains the therapeutic, prophylactic or diagnostic agent to be delivered; and

(b) a triggering device which is adapted to activate delivery of the agent from reservoir through the microneedles of one of the devices at a time;

(3) a device for collecting a sample of a biological fluid comprising:

(a) hollow or porous microneedles having a base end and a tip;

(b) a substrate to which the base of the microneedle is attached or integrated; and

(c) at least one collection chamber which is selectably in fluid communication with the base end of the microneedle;

(4) a device for sensing an analyte in a biological fluid, comprising:

(a) microneedles having a base end and a tip;

(b) a substrate to which the base of the microneedle is attached or integrated;

(c) at least one sensor which is selectably in communication with the microneedle;

(5) a device for sensing an analyte in a biological fluid comprising:

(a) microneedles having a base end and a tip;

(b) a substrate to which the base of the microneedle is attached or integrated, where at least one of the microneedles is or comprises a sensor;

(6) collecting a sample of a biological fluid or analyte comprising:

(a) providing a device comprising:

(i) hollow or porous microneedles having a base end and a tip;

(ii) a substrate to which the base of the microneedle is attached or integrated;

(iii) at least one collection chamber which is selectably in fluid connection with the base end of the microneedle; and

(iv) a device for inducing transport of the biological fluid or component into the

collection chamber;

(b) inserting the microneedles into a biological barrier comprising biological fluid; and

(c) triggering the induction device to permit the transport of the biological fluid or a component through the microneedles and into the collection chamber;

(7) a device for transport of material or energy across or into an elastic biological barrier, comprising:

(a) a microneedle having a tip end and a base end;

(b) a substrate connected to the base end of the microneedle; and

(c) a device for improving penetration of the biological barrier by the microneedle; and

(8) a kit for use in transport of material or energy across or into an elastic biological barrier, comprising:

(a) a device comprising microneedles having a tip end and a base end, and a substrate connected to the base end of the microneedle; and

(b) an adhesive film or barrier-tightening chemical, either of which can be applied over an area of the biological barrier to be penetrated by the microneedle.

USE - The devices can be used for the transport of material across a biological barrier such as human skin or other mammalian skin. They can be used for the delivery from the reservoir of a therapeutic, prophylactic or diagnostic agent, e.g. peptides, proteins, carbohydrates, nucleic acid molecules, lipids, organic molecules, biologically active inorganic molecules or combinations. They can also be used for detecting an analyte such as glucose, cholesterol, bilirubin, creatine, metabolic enzymes, hemoglobin, heparin, clotting factors, uric acid, tumor antigens, reproductive hormones, oxygen, pH, alcohol, tobacco metabolites, or illegal drugs. The glucose can then be detected using agents such as glucose oxidase or glucose dehydrogenase. (All claimed). The devices can also be used to transmit or transfer other materials and energy forms, such as light, electricity, heat or pressure, e.g. they can be used to direct light to specific locations within the body, in order that the light can directly act on a tissue or one an intermediary, such as light-sensitive molecules in photodynamic therapy.

ADVANTAGE - The microneedles can greatly increase skin permeability and can provide efficient, relatively painless transport of materials across the skin or other tissue barriers.

ABSTRACTED-PUB-NO: WO 200074763A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.0/27

DERWENT-CLASS: B04 B07 D16 P31 P34
CPI-CODES: B04-A06; B04-A08C2; B04-A09; B04-A10; B04-B01B; B04-B04C2; B04-B04D2; B04-B04H; B04-C02E1; B04-E01; B04-H19; B04-J01; B04-L01; B04-L03A; B04-L03D; B04-N04; B05-C08; B07-D09; B10-A07; B10-E04D; B11-C04; B11-C08; B12-K04A; D05-A02A; D05-H09;

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(25) Filing Language: English

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(30) Priority Data:
09/328,946 9 June 1999 (09.06.1999) US

(71) Applicant: THE PROCTER & GAMBLE COMPANY [US/US]; One Procter & Gamble Plaza, Cincinnati, OH 45202 (US).

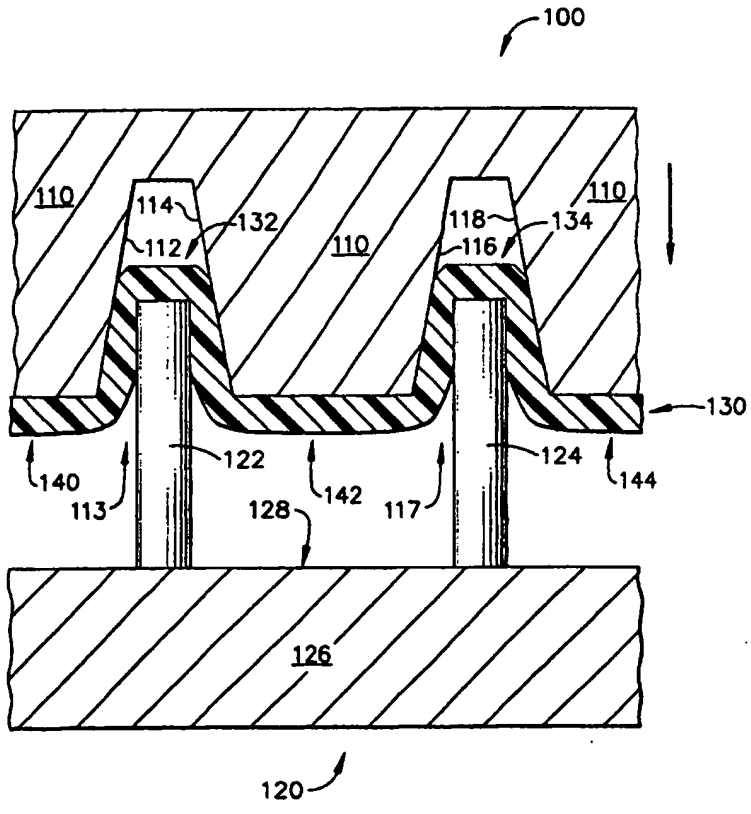
(72) Inventors: SHERMAN, Faiz, F.; 8517 Breezewood Ct. #207, West Chester, OH 45069 (US). YUZHAKOV, Vadim Vladimirovich; Apt. #8, 8336 Four Worlds Drive, Cincinnati, OH 45231 (US). GARTSTEIN, Vladimir; 11187 Huntwick Place, Cincinnati, OH 45241 (US). OWENS, Grover, David; 1612 Oak Valley, Fairfield, OH 45014 (US).

(74) Agents: REED, T., David et al.; The Procter & Gamble Company, 5299 Spring Grove Avenue, Cincinnati, OH 45217-1087 (US).

(81) Designated States *(national)*: AE, AL, AM, AT, AT (utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, CZ (utility model), DE, DE (utility model), DK, DK (utility model), DM, EE, EE (utility model), ES, FI, FI (utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL,

[Continued on next page]

(54) Title: METHOD OF MANUFACTURING AN INTRACUTANEOUS MICRONEEDLE ARRAY



(57) Abstract: A microneedle array is manufactured using a mold preparation procedure that begins by placing an optical mask over a layer of PMMA material, exposing the PMMA material to x-rays, then developing using a photoresist process. The remaining PMMA material is then electroplated with metal. Once the metal has reached an appropriate thickness, it is detached to become a metal mold that is used in a microembossing procedure, in which the metal mold is pressed against a heated layer of plastic material. Once the mold is pressed down to its proper distance, the plastic material is cooled until solidified, and the mold is then detached, thereby leaving behind an array of microneedles. If the microneedles are hollow, then an additional procedure is used to create through-holes all the way through the underlying substrate material using laser optical means.

WO 00/74764 A1

End of Result Set

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L44: Entry 1 of 1 File: DWPI Jan 14, 2003

DERWENT-ACC-NO: 2001-032226
DERWENT-WEEK: 200306
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TITLE: Manufacture of microneedle array, for use in the medical field, comprises placing a planar material in a mold comprising one or two portions containing micropillars and microholes, heating it until it deforms and then allowing it to cool

INVENTOR: GARTSTEIN, V; OWENS, G D ; SHERMAN, F F ; YUZHAKOV, V V

PATENT-ASSIGNEE: PROCTER & GAMBLE CO (PROC)

PRIORITY-DATA: 1999US-0328946 (June 9, 1999), 2001US-0956520 (September 19, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 2003501161 W	January 14, 2003		142	A61M035/00
WO 200074764 A1	December 14, 2000	E	107	A61M037/00
AU 200057279 A	December 28, 2000		000	A61M037/00
US 6312612 B1	November 6, 2001		000	B81C001/00
US 20020020688 A1	February 21, 2002		000	C23F001/00
EP 1183064 A1	March 6, 2002	E	000	A61M037/00
US 6471903 B2	October 29, 2002		000	B29C033/42

DESIGNATED-STATES: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP2003501161W	June 7, 2000	2000WO-US15612	
JP2003501161W	June 7, 2000	2001JP-0501295	
JP2003501161W		WO 200074764	Based on
WO 200074764A1	June 7, 2000	2000WO-US15612	
AU 200057279A	June 7, 2000	2000AU-0057279	
AU 200057279A		WO 200074764	Based on
US 6312612B1	June 9, 1999	1999US-0328946	
US20020020688A1	June 9, 1999	1999US-0328946	Div ex
US20020020688A1	September 19, 2001	2001US-0956520	
US20020020688A1		US 6312612	Div ex
EP 1183064A1	June 7, 2000	2000EP-0942691	
EP 1183064A1	June 7, 2000	2000WO-US15612	
EP 1183064A1		WO 200074764	Based on
US 6471903B2	June 9, 1999	1999US-0328946	Div ex
US 6471903B2	September 19, 2001	2001US-0956520	
US 6471903B2		US 6312612	Div ex

INT-CL (IPC): A61 B 5/00; A61 B 5/15; A61 M 35/00; A61 M 37/00; B29 C 33/42; B29 C 69/00; B81 C 1/00; C23 F 1/00

RELATED-ACC-NO: 2002-188202

ABSTRACTED-PUB-NO: WO 200074764A
BASIC-ABSTRACT:

NOVELTY - Manufacturing a microneedle array comprises:

(1) providing a bottom mold with vertical micropillars having top surfaces of equal height;

(2) placing a material on top of the micropillars;

(3) heating the material to just above its melting temperature;

(4) allowing the material to deform;

(5) cooling the material;

(6) detaching the material from the bottom mold, thus leaving an array of hollow microneedles.

DETAILED DESCRIPTION - Manufacturing a microneedle array comprises:

(1) providing a bottom mold with a horizontal base surface and vertical micropillars (122, 124) with top surfaces of equal height;

(2) placing a planar material on the top surfaces of the micropillars;

(3) heating the material to just above its melting temperature (MT) while keeping the temperature of the micropillars at a temperature just below MT;

(4) allowing the material to begin to deform due to a temperature gradient within the planar material and due to a gravitational or centrifugal force;

(5) continuing to allow the material to deform until a portion of the deformed material touches the horizontal base surface (by which time all the material at the top of the micropillars has melted away);

(6) cooling the mold and the material to a temperature below MT;

(7) detaching the material from the bottom mold structure, thus leaving an array of hollow microneedles.

INDEPENDENT claims are included for:

(1) Preparation of a microneedle array comprising:

(a) providing a top mold with a planar bottom surface and a bottom mold with a planar top surface, both of which have microholes and micropillars of equal length located within the microholes. The micropillars extend beyond the bottom surface, preventing it from contacting the top surface when the two molds are closed, thus creating a gap between the two molds;

(b) heating a moldable material to above its melting temp in a separate container;

(c) injecting the moldable material into the mold when the two halves are closed;

(d) cooling the mold and material to a temperature below the melting temperature of the material and detaching the material from it, thus leaving an array of hollow microneedles.

(2) Preparation of a microneedle array comprising:providing a semiconductor;

(a) providing a semiconductor wafer;

(b) creating annular oxide patterns on the top surface of the wafer;

(c) forming indentations on the bottom surface of the wafer;

(d) forming, by etching away material, needle-like protection in the top surface of the wafer which are aligned with the indentations; and

(e) forming through holes in the needle-like projections thus creating an array of hollow microneedles.

(3) Preparation of a mold for manufacturing of a microneedle comprises:

(a) providing a photoresist material in contact with a temporary substrate;

(b) placing a mask with a predetermined pattern on the photoresist material (at least a portion of the mask comprises a material that prevents high energy radiation from passing through it);

(c) exposing the combination photoresist material/mask layer to a high energy radiation;

(d) removing the mask layer and chemically developing exposed portions of the photo-resist material, thus removing portions of the photoresist material and leaving behind a pattern that represents a three dimensional structure emulating the microneedles to be formed later;

(e) electroplating the patterned photoresist material with a metallic substance; and

(f) detaching the metallic substance from the patterned photoresist material so that the metallic substance forms a microneedle array mold.

USE - The microneedle array is used as a fluid sampling device in the medical field or for dispensing fluid into blood.

ADVANTAGE - Sharp hollow microneedles are obtained which allow intracutaneous drug delivery and the sampling of biological fluids to be performed. The microneedle array has sensing capabilities using optical, spectroscopic, colorimetric, electrochemical, thermal, gravimetric and light scattering devices. The molds are

detachable and can be re-used, this method is therefore less expensive than microfabrication techniques. This method is also quicker and more accurate than microfabrication techniques. The microneedle array is in the from of a patch which can perform intracutaneous drug delivery, biological fluid testing and sampling e.g. of interstitial fluids or blood. The microneedle array can be use as part of a closed loop system to control drug delivery, based on feedback information, that analyses body fluids. Such a system can achieve real time continuous dosing and monitoring of body activity.

DESCRIPTION OF DRAWING(S) - The figure shows the sectional view explaining the microneedle array manufacture.

Planar material 130

Micropillars 122,124

ABSTRACTED-PUB-NO: WO 200074764A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.9/57

DERWENT-CLASS: A32 A96 B07 P31 P34 Q68 S05
CPI-CODES: A11-B08; A11-C04B1; A12-H05; A12-L02; A12-V03D; B11-C03; B11-C09;
EPI-CODES: S05-D; S05-J02;

End of Result Set

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L49: Entry 1 of 1 File: DWPI Oct 17, 2002

DERWENT-ACC-NO: 2003-092944
DERWENT-WEEK: 200308
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TITLE: Measuring lipid antioxidant activity in plasma sample for diagnosing and protecting against free radicals associated disorders, by using lipophilic radical generators and oxidizable lipophilic indicators

INVENTOR: ALDINI, G; YEUM, K

PATENT-ASSIGNEE: TUFTS COLLEGE (TUFT)

PRIORITY-DATA: 2001US-280920P (April 2, 2001), 2002US-0114181 (April 2, 2002)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 200282093 A2	October 17, 2002	E	077	G01N033/92
US 20020182736 A1	December 5, 2002		000	G01N035/02

DESIGNATED-STATES: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
WO 200282093A2	April 2, 2002	2002WO-US10276	
US20020182736A1	April 2, 2001	2001US-280920P	Provisional
US20020182736A1	April 2, 2002	2002US-0114181	

INT-CL (IPC): G01 N 33/92; G01 N 35/02

ABSTRACTED-PUB-NO: WO 200282093A
BASIC-ABSTRACT:

NOVELTY - Measuring (M1) lipid antioxidant activity in a sample, comprises incubating the sample with a lipophilic radical generator at a concentration that produces free radicals in a lipid compartment of the sample, adding an oxidizable lipophilic indicator to the sample, and measuring the oxidation of the indicator to provide a measure of the antioxidant activity of the lipid compartment of the sample.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) measuring (M2) the total antioxidant activity in a sample, by incubating the sample with a lipophilic radical generator at a concentration that produces free radicals in a lipid compartment of the sample, and a hydrophilic radical generator at a concentration that produces free radicals in an aqueous compartment of the sample, adding an oxidizable lipophilic indicator, and an oxidizable hydrophilic indicator to the sample, and measuring the oxidation of the lipophilic indicator to provide a measure of the antioxidant activity of the lipid compartment of the

sample, and measuring the oxidation of the hydrophilic indicator aqueous oxidation indicator to provide a measure of the antioxidant activity of the aqueous compartment of the sample;

(2) protecting (M3) against a free radical associated disorder, by identifying a reduced lipid antioxidant activity in a lipid compartment of a sample from a subject, and administering a lipid antioxidant at a concentration that increases the lipid antioxidant concentration in the lipid compartment, such that the increase of lipid antioxidant in the lipid compartment protects against the free radical associated disorder; and

(3) an assay kit comprising a lipophilic radical generator capable of producing free radicals in a lipid compartment of the sample, and an oxidizable lipophilic indicator capable of providing a measure of antioxidant activity in the lipid compartment of the sample.

ACTIVITY - Cardiant; Antiatherosclerotic; Nootropic; Antiinflammatory; Vulnerary; Antidiabetic; Ophthalmological; Immunosuppressive; Nephrotropic; Dermatological; Antiparkinsonian; Neuroprotective; Cytostatic; Protozoacide; Antianemic; Antirheumatic; Antiarthritic; Vasotropic; Cerebroprotective; Anti-HIV; Antiarrhythmic; Hepatotropic; Tranquilizer.

MECHANISM OF ACTION - Lipid/aqueous antioxidant.

No supporting data is given.

USE - (M1) is useful for measuring the lipid antioxidant activity in a sample such as blood, plasma, serum, urine, cerebral spinal fluid, amniotic fluid, interstitial fluid, lymphatic, and synovial fluid, in particular plasma. Measuring the oxidation of the oxidizable lipophilic or hydrophilic provides an indirect measurement of antioxidant activity of the lipid or aqueous compartment of the sample. (M1) and (M2) are useful for diagnosing a free radical associated disorder, by measuring a level of lipid antioxidant activity in a sample from a subject, and comparing the measured activity with at least one known normal value to determine whether a deviation from the normal value exists. The method further comprises measuring a level of aqueous antioxidant activity in a sample from a subject, and comparing the measured activity with at least one known normal value to determine whether a deviation from the normal value exists. (M1) is also useful for assessing the efficacy of a therapy for a free radical associated disorder. The method involves measuring the lipid/aqueous antioxidant activity in a sample from a subject prior to and after the therapy, where a higher lipid/aqueous antioxidant activity in the sample after therapy compared to the sample prior to therapy, is an indication that the therapy is efficacious for the free radical associated disorder (all claimed). (M1) is useful to help, diagnose, monitor and assess treatment of disorders associated with antioxidant levels and excess free radicals. Such disorders include Down's syndrome, heart and cardiovascular diseases such as atherosclerosis, gastrointestinal tract disorders such as inflammatory and immune injury, diabetes, pancreatitis, eye disorders such as cataractogenesis, degenerative retinal damage, macular degeneration, kidney disorders such as autoimmune nephrotic syndromes, skin disorders, nervous system disorders such as Parkinson's disease, Alzheimer's disease, multiple sclerosis, lung disorders such as lung cancer, red blood cell disorders such as malaria, sickle cell anemia, iron overload disorders such as hemochromatosis, dietary iron overload and thalassemia, inflammatory-immune injury, for e.g. glomerulonephritis, autoimmune diseases, rheumatoid arthritis, ischemia reflow states disorders such as stroke and myocardial infarction, liver disorders and other oxidative stress disorders such as AIDS, general low-grade inflammatory disorders, organ transplantation, inflamed rheumatoid joints, and arrhythmias. (M3) is useful for diagnosis and prevention of a free radical induced disorder or an oxidative stress disorder. (M1) is also useful as a quality control for food manufacturing and processing. The method can be used to assess the antioxidant content of plants as well as food products to help determine food processing conditions, for monitoring the effectiveness of new topical cosmetic products as well as in studying the protective mechanism of antioxidants. The method is also useful to monitor levels of antioxidants, in particular, alpha -tocopherol, a biomarker for environmentally induced oxidation, to assess a subject's level of

environmentally-caused skin damage or aging.

ADVANTAGE - (M1) is a simple and efficient method for evaluation of lipid antioxidant activity. The method accurately measures the antioxidant activity of both the lipid and aqueous compartments. The method is accurate, quick, non-invasive and can be easily adapted for high throughput usage and diagnostic procedures.

ABSTRACTED-PUB-NO: WO 200282093A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.4/14

DERWENT-CLASS: B04 B05 S03
CPI-CODES: B03-F; B04-B04B1; B04-B04D4; B04-B04D5; B04-B04L; B05-A03A; B05-B01A; B06-A01; B06-A03; B06-D09; B06-D16; B10-A16; B11-C07B3; B12-K04A;
EPI-CODES: S03-E14H;

End of Result Set

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L50: Entry 1 of 1 File: DWPI Nov 28, 2002

DERWENT-ACC-NO: 2003-129468
DERWENT-WEEK: 200312
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TITLE: Diagnosing or determining a health condition involves evaluating an analyte of a biological fluid and administering a treatment

INVENTOR: FAUPEL, M; MARCUS, R ; SMITH, A ; YANG, D

PATENT-ASSIGNEE: SPECTRX INC (SPECN)

PRIORITY-DATA: 2001US-292131P (May 18, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 200295358 A2	November 28, 2002	E	018	G01N000/00

DESIGNATED-STATES: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
WO 200295358A2	May 20, 2002	2002WO-US16130	

INT-CL (IPC): G01 N 0/00

ABSTRACTED-PUB-NO: WO 200295358A

BASIC-ABSTRACT:

NOVELTY - Treating a health condition involves accessing a source of biological fluid, evaluating an analyte of the biological fluid and administering a treatment and/or presenting a measurement parameter based on the evaluation.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a system for treating a health condition comprising:

(1) A fluid handling device adapted and configured to obtain a biological fluid with an analyte and to evaluate the analyte;

(2) A display and alert device adapted and configured to display the evaluation of the analyte and alert a user to the evaluation; and

(3) An administration device adapted and configured to administer a therapy.

ACTIVITY - Dermatological; Antiseborrheic; Antipsoriatic; Cytostatic; Antiarthritic; Antiinflammatory; Antidiabetic; Antiarteriosclerotic; Cardiant; Antiarrhythmic; Antilipemic; Anorectic.

MECHANISM OF ACTION - None given.

USE - For monitoring, diagnosing or determining a health condition of a subject and administering a treatment based on the quantitation. The health condition can be a dermatological disorder like psoriasis, rosacea, seborrheic dermatitis, eczema, acne, actinic keratosa or serious metabolic disorders e.g. diabetes, atherosclerosis, congestive heart failure, renal failure, hypoperfusion, metabolic acidosis, hypoxia, shock, dehydration, neuromuscular disorders, weakness, tremors, tetany, convulsion, hypocalcemia, hypokalemia, peripheral vasodilation, alcoholism, malnutrition, malabsorption, hyperparathyroidism, dialysis, pregnancy, hyperaldosteronism, Addison's disease, hyperlipidemia, panorelitis, hypothyroidism, nephritic syndromes, liver disease, obesity and urinary track obstruction.

ADVANTAGE - Provides a method for evaluating and/or treating a health condition, and can be applied in both in vitro and in vivo settings. The evaluation and administration can be a single use basis, on a continuous use basis or a combination of both.

ABSTRACTED-PUB-NO: WO 200295358A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.0/3

DERWENT-CLASS: B04 S03
CPI-CODES: B04-B04B1; B04-B04D4; B04-B04D5; B04-H02; B04-H06; B04-N02; B07-D02; B07-D09; B11-C08; B12-K04A; B14-C03; B14-E12; B14-F01; B14-F06; B14-F09; B14-H01; B14-N17;
EPI-CODES: S03-E14H9;

End of Result Set

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L3: Entry 1 of 1 File: DWPI Feb 3, 2000

DERWENT-ACC-NO: 2000-182505
DERWENT-WEEK: 200278
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TITLE: Fluid collection and sensor device for measuring a characteristic of a biological fluid collected from a tissue through an artificial opening

INVENTOR: EPPSTEIN, J A; HATCH, M R ; SAMUELS, M A ; DELCHER, H K ; FARQUHAR, D ; KUMAR, K S ; SMITH, A

PATENT-ASSIGNEE: SPECTRX INC (SPECN), ALTEA TECHNOLOGIES INC (ALTEN)

PRIORITY-DATA: 1999US-139970P (June 18, 1999), 1998US-093534P (July 21, 1998), 1999US-0263464 (March 5, 1999), 1999US-138739P (June 11, 1999), 1999US-140252P (June 18, 1999), 1999US-140285P (June 18, 1999)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 200004821 A1	February 3, 2000	E	040	A61B005/00
AU 9951106 A	February 14, 2000		000	A61B005/00
BR 9912333 A	April 17, 2001		000	A61B010/00
BR 9912339 A	April 17, 2001		000	A61B005/00
EP 1098589 A1	May 16, 2001	E	000	A61B005/00
JP 2002521077 W	July 16, 2002		040	A61B005/145

DESIGNATED-STATES: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
WO 200004821A1	July 20, 1999	1999WO-US16226	
AU 9951106A	July 20, 1999	1999AU-0051106	
AU 9951106A		WO 200004821	Based on
BR 9912333A	July 20, 1999	1999BR-0012333	
BR 9912333A	July 20, 1999	1999WO-US16378	
BR 9912333A		WO 200004832	Based on
BR 9912339A	July 20, 1999	1999BR-0012339	
BR 9912339A	July 20, 1999	1999WO-US16226	
BR 9912339A		WO 200004821	Based on
EP 1098589A1	July 20, 1999	1999EP-0935678	
EP 1098589A1	July 20, 1999	1999WO-US16226	
EP 1098589A1		WO 200004821	Based on
JP2002521077W	July 20, 1999	1999WO-US16226	
JP2002521077W	July 20, 1999	2000JP-0560818	
JP2002521077W		WO 200004821	Based on

INT-CL (IPC): A61 B 5/00; A61 B 5/145; A61 B 10/00; G01 N 33/48

RELATED-ACC-NO: 1995-310794;1995-365409 ;1997-178866 ;1998-178086 ;1999-540746 ;1999-550973 ;1999-550974 ;2000-182506 ;2000-271186

ABSTRACTED-PUB-NO: WO 200004821A
BASIC-ABSTRACT:

NOVELTY - Fluid collection and sensor device (100) comprises a sensor (110) in a flow path (105) of the fluid for contacting the fluid and generating a fluid characteristic and a reservoir in the device to collect the biological fluid after its contact with sensor.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a method for monitoring a characteristic of a biological fluid collected from an artificial opening in tissue which comprises continuously applying suction to the flow path (105) for fluid from tissue to draw fluid along the flow path (105), continuously sensing a characteristic of fluid flowing along the path and storing the fluid in the reservoir (120) after it is sensed.

USE - Used for placement over an artificial opening made in a biological membrane to measure a characteristic of a biological fluid collected from the tissue through the opening.

ADVANTAGE - Accurate sensor measurements are obtained by efficiently obtaining readings. The device is designed to ensure that measurements are made on independent fluid samples.

DESCRIPTION OF DRAWING(S) - The figure shows a schematic diagram of a fluid collection and sensor device with a waste fluid collection element in a continuous monitoring system.

Fluid collection and sensor device 100

Flow path 105

Sensor 110

Reservoir 120

ABSTRACTED-PUB-NO: WO 200004821A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/16

DERWENT-CLASS: B04 P31
CPI-CODES: B11-C08C; B12-K04A;

End of Result Set

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L1: Entry 1 of 1 File: DWPI Oct 27, 1994

DERWENT-ACC-NO: 1994-333936
DERWENT-WEEK: 199705
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TITLE: Quantitative determination of texture of human skin by image analysis - deriving mathematical characteristics from grey-scale images by digital image processing, determining grey-scale transitions and/or run-lengths of grey scale value w.r.t. normal distribution and distribution function

INVENTOR: HOPPE, U; LUNDERSTAEDT, R

PATENT-ASSIGNEE: BEIERSDORF AG (BEIE)

PRIORITY-DATA: 1993DE-4313258 (April 23, 1993)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 4313258 A1	October 27, 1994		021	A61B005/103
JP 08509146 W	October 1, 1996		034	A61B005/107
WO 9424936 A1	November 10, 1994		041	A61B005/103
EP 695140 A1	February 7, 1996	G	001	A61B005/103

CITED-DOCUMENTS:04Jnl.Ref; EP 312736 ; FR 2570206

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
DE 4313258A1	April 23, 1993	1993DE-4313258	
JP 08509146W	April 21, 1994	1994JP-0523835	
JP 08509146W	April 21, 1994	1994WO-EP01243	
JP 08509146W		WO 9424936	Based on
WO 9424936A1	April 21, 1994	1994WO-EP01243	
EP 695140A1	April 21, 1994	1994EP-0915081	
EP 695140A1	April 21, 1994	1994WO-EP01243	
EP 695140A1		WO 9424936	Based on

INT-CL (IPC): A61B 5/103; A61B 5/107; G01B 11/30; G06K 9/22

ABSTRACTED-PUB-NO: DE 4313258A
BASIC-ABSTRACT:

Grey-scale images of the skin or of a replica of the skin

surface are formed using targeted illumination of the skin or replica at a defined illumination angle. Mathematical characteristics of the distribution of the grey values are derived using digital image processing.

Auxiliary images of a surface structure of different contrast are formed and characteristics of the grey value transitions determined and/or the run length of a grey value w.r.t. its normal distribution function and significant deviations are analysed.

USE/ADVANTAGE - For quantitative determination of texture of human skin by recording, reproducing and analysing image information. Corcuff method is developed to determine roughness coefficients image analytical microtopography of the skin surface, taking account of the extent of Stratum Corneum. E.g. for cosmetics.

ABSTRACTED-PUB-NO: DE 4313258A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/7

DERWENT-CLASS: P31 S02 S05 T01
EPI-CODES: S02-A03B5; S05-D01C5A; T01-J10B2;

End of Result Set

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L2: Entry 1 of 1 File: DWPI Oct 2, 2002

DERWENT-ACC-NO: 2002-590638
DERWENT-WEEK: 200273
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TITLE: In vitro identification of skin-expressed genes, useful for determining homeostasis and identifying cosmetic or pharmaceutical agents against e.g. skin cancer

INVENTOR: CONRADT, M; HOFMANN, K ; PETERSOHN, D

PATENT-ASSIGNEE: HENKEL KGAA (HENK)

PRIORITY-DATA: 2001DE-1000127 (January 3, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 10100127 A1	October 2, 2002		000	C12Q001/68
WO 200253774 A2	July 11, 2002	G	000	C12Q001/68

DESIGNATED-STATES: AU BG BR BY CA CN CZ DZ HU ID IL IN JP KR MX NO NZ PL RO RU SG SI SK UA US UZ VN YU ZA AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
DE 10100127A1	January 3, 2001	2001DE-1000127	
WO 200253774A2	December 20, 2001	2001WO-EP15179	

INT-CL (IPC): C12 Q 1/68

ABSTRACTED-PUB-NO: WO 200253774A
BASIC-ABSTRACT:

NOVELTY - In vitro identification (M1) of genes expressed in the skin of humans or animals by subjecting a mixture of genetically encoded factors (A), from skin, to serial analysis of gene expression (SAGE) so as to identify skin-expressed genes and quantify their expression, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) identifying (M2) genes important for skin homeostasis which includes comparing the SAGE results with similar results from other tissues to identify those genes having markedly different expression in skin compared with other tissues;

(2) determining (M3) homeostasis of skin by comparing the pattern of (A) in a test sample with the pattern derived from SAGE analysis;

(3) test kit, or biochip, for (M3);

(4) determining (M4) activity of pharmaceutical or cosmetic compounds for maintenance or promotion of skin homeostasis and for treating skin disorders;

(5) test kit for (M4); and

(6) screening (M5) to identifying compounds useful for maintenance or promotion of skin homeostasis and for treating skin disorders.

ACTIVITY - Dermatological; Vulnerary; Antipsoriatic; Antiseborrheic; Immunosuppressive; Antiinflammatory; Cytostatic.

No test details given.

MECHANISM OF ACTION - None given.

USE - (M1) is useful for identifying genes involved in skin homeostasis; to determine skin homeostasis and to test agent (A) that maintain or promote skin homeostasis or that can be used for treating skin disorders, specifically neurodermatitis; sunburn; psoriasis; scleroderma; ichthyosis; atopic dermatitis; acne; seborrhea; lupus erythematosus; rosacea; melanoma; basal cell carcinoma; and carcinoma or sarcoma of the skin.

ABSTRACTED-PUB-NO: WO 200253774A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.0/0

DERWENT-CLASS: B04 D16 D21
CPI-CODES: B04-C01; B04-E01; B04-E05; B04-G01; B04-N04; B11-C08D; B11-C08E6; B11-C10; B12-K04E; B14-H01; B14-N17; B14-R01; D05-H09; D05-H12; D08-B; D08-B09A1;

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L4: Entry 2 of 2 File: DWPI Mar 18, 2003

DERWENT-ACC-NO: 2001-499980
DERWENT-WEEK: 200322
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TITLE: Health degree evaluation system for skin examination, uses computer to compute overall mass transfer coefficient of water in keratic layer from humidity of carrier gas passed through skin

INVENTOR: ENDO, K; HOSHI, M ; SHIOYA, Y

PATENT-ASSIGNEE: KAO CORP (KAOS)

PRIORITY-DATA: 1999JP-0301055 (October 22, 1999)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 6533725 B1	March 18, 2003		000	A61B005/00
JP 2001187025 A	July 10, 2001		009	A61B005/00
GB 2358706 A	August 1, 2001		000	A61B005/00

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
US 6533725B1	October 20, 2000	2000US-0692190	
JP2001187025A	October 2, 2000	2000JP-0302155	
GB 2358706A	October 17, 2000	2000GB-0025470	

INT-CL (IPC): A61 B 5/00

ABSTRACTED-PUB-NO: JP2001187025A
BASIC-ABSTRACT:

NOVELTY - The jet supply of carrier gas is performed from a feed path on the skin face. The humidity of gas passed through the skin to an exhaust path is measured by a sensor. A computer computes the overall mass transfer coefficient of water in the keratic layer using an analysis method from the amount of moisture content transpiration computed from the sensor output.

DETAILED DESCRIPTION - The permeability of water through the skin keratic layer is evaluated using the amount of moisture content transpiration. An INDEPENDENT CLAIM is included for the skin health degree evaluation method.

USE - For medically evaluating skin health degree of living organisms.

ADVANTAGE - The measured values which indicate the amount of moisture content transpiration in a skin can be separated into a permeability of water and moisture content supply power and be used as the parameters such as a barrier function and a reduction in the same in a living body by using computer to compute the mass transfer coefficient of moisture content through the skin in response to the measured humidity of carrier gas which passed through the skin. The health degree of an objective skin can be evaluated correctly.

ABSTRACTED-PUB-NO: JP2001187025A

EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.0/8

DERWENT-CLASS: P31 S05
EPI-CODES: S05-D01;

(12) UK Patent Application (19) GB (11) 2 358 706 (13) A

(43) Date of A Publication 01.08.2001

(21) Application No 0025470.6

(22) Date of Filing 17.10.2000

(30) Priority Data
(31) 11301055 (32) 22.10.1999 (33) JP

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(51) INT CL[7]
A61B 5/00

(52) UK CL (Edition S)
G1N NENX N30PX

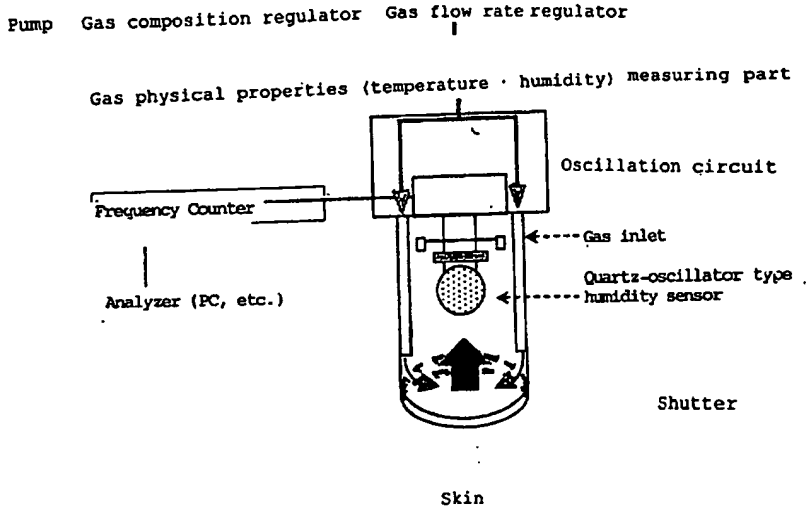
(56) Documents Cited
US 5131390 A
WPI Abstract Accession No. 1988-095519 &
JP630046131A

(58) Field of Search
UK CL (Edition S) G1N NACL NEND NENX
INT CL[7] A61B 5/00 5/103 , G01N 27/00
ONLINE: WPI EPODOC JAPIO

(54) Abstract Title
An apparatus and method for evaluating skin health

(57) An apparatus and method for evaluating the water permeability through the stratum corneum epidermis and/or water supplying capability of a structure which lies below the stratum corneum epidermidis and is formed of living cells by using a water transpiration amount, which comprises means for feeding, from a gas inlet, a carrier gas having certain properties to a skin surface to be measured; means for measuring, by a humidity sensor, humidity of the carrier gas which has been discharged from a gas exhaust, passing over the skin surface to be measured; and means for calculating the water transpiration amount in accordance with a response to the sensor and calculating, by a predetermined analyzing method, an overall mass transfer coefficient of water in the stratum corneum epidermis and/or water vapor partial pressure of the structure which lies below the stratum corneum epidermidis and is formed of living cells.

FIG. 1



GB 2 358 706 A

Generate Collection

L6: Entry 1 of 2 File: JPAB Jul 10, 2001

PUB-NO: JP02001187205A
DOCUMENT-IDENTIFIER: JP 2001187205 A
TITLE: GAME MACHINE

PUBN-DATE: July 10, 2001

INVENTOR-INFORMATION:
NAME COUNTRY
UGAWA, SHOHACHI
ISHIDA, ISAMU

ASSIGNEE-INFORMATION:
NAME COUNTRY
SANKYO KK

APPL-NO: JP11373606
APPL-DATE: December 28, 1999

INT-CL (IPC): A63 F 7/02

ABSTRACT:

PROBLEM TO BE SOLVED: To provide a game machine that can lessen a control burden for game control means and thus prolong the time the game control means can spend on primary game control.

SOLUTION: A game control board sends display control commands including at least a changing time command and stop picture commands to a display control board. Depending on the display control commands received, the display control board determines whether to give an advance signal for a 'reach' phase when a jackpot is within reach and whether to give an advance signal for a jackpot, and determines a replacing picture in picture replacement control.

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L7: Entry 1 of 2 File: JPAB Dec 19, 2000

PUB-NO: JP02000352566A
DOCUMENT-IDENTIFIER: JP 2000352566 A
TITLE: DISCRIMINATION METHOD OF ORGANISM STATE

PUBN-DATE: December 19, 2000

INVENTOR-INFORMATION:
NAME COUNTRY
NAKAMURA, TADAO

ASSIGNEE-INFORMATION:
NAME COUNTRY
POLA CHEM IND INC

APPL-NO: JP11163694
APPL-DATE: June 10, 1999

INT-CL (IPC): G01 N 33/50; A61 B 5/107; G01 N 23/22; G01 N 23/225; A61 K 7/06; A61 K 7/40; A61 P 3/02

ABSTRACT:

PROBLEM TO BE SOLVED: To establish an organism state discrimination method that is appropriate to the monitoring of the organism state, the selection of an organism treatment agent, or the like by using the analysis result of hair and/or one part of the hair as an index.

SOLUTION: The analysis result of hair and/or the root of the hair that is one part of the hair is used as an index for discriminating the state of an organism. An analysis value used as the index includes metal contents such as manganese, zinc, iron, and calcium, change in entire form or partial structure such as the disturbance of cuticle structure, the amount and distribution of a protein fragment, namely, those of a thiol group, carbonium ion group, an amino group, or the like, and change in a physical constant such as the fluctuation of constitution amino acid, tensile strength and shear stress, and partial color irregularity. The hair is used as it is, or is cut from the root of the hair by nearly the same length for measuring for each position, thus obtaining past history according to the change of a measurement value. The growth speed of the hair is approximately 0.2 to 0.5 mm per day, thus using the numerical value for grasping an accurate past organism state.

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L15: Entry 1 of 1 File: DWPI Nov 20, 1997

DERWENT-ACC-NO: 1998-008519
DERWENT-WEEK: 200245
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TITLE: Blood and interstitial fluid sampling device for analysis=processing - uses lancing needle to pierce skin at rapid rate while ultrasonically kneading area to stimulate blood flow and pumping off sample

INVENTOR: DOUGLAS, J S; DREXLER, A M ; DUCHON, B G ; GRAGE, H M ; RADWANSKI, R ; ROE, J N ; SANCHEZ, M S ; SANCHEZ, M J

PATENT-ASSIGNEE: MERCURY DIAGNOSTICS INC (MERCN), DOUGLAS J S (DOUGI), GRAGE H M (GRAGI), RADWANSKI R (RADWI), ROE J N (ROEJI), SANCHEZ M S (SANCI), AMIRA MEDICAL (AMIRN)

PRIORITY-DATA: 1996US-0727074 (October 8, 1996), 1996US-017133P (May 17, 1996), 1996US-019918P (June 14, 1996), 1996US-023658P (August 1, 1996), 1996US-025340P (September 3, 1996), 1996US-0714548 (September 16, 1996), 1996US-0710456 (September 17, 1996), 1999US-0180839 (May 10, 1999), 2001US-0988799 (November 20, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 9742888 A1	November 20, 1997	E	068	A61B017/32
US 20020082522 A1	June 27, 2002		000	A61B005/00
AU 9732847 A	December 5, 1997		000	
GB 2325167 A	November 18, 1998		000	A61B005/14
DE 19781097 T	July 1, 1999		000	A61B010/00
GB 2325167 B	May 10, 2000		000	A61B005/15
US 6332871 B1	December 25, 2001		000	A61B005/00

DESIGNATED-STATES: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN YU AT BE CH DE DK EA ES FI FR GB GH GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
WO 9742888A1	May 16, 1997	1997WO-US08762	
US20020082522A1	May 17, 1996	1996US-017133P	Provisional
US20020082522A1	May 16, 1997	1997WO-US08762	Cont of
US20020082522A1	May 10, 1999	1999US-0180839	Cont of
US20020082522A1	November 20, 2001	2001US-0988799	
US20020082522A1		US 6332871	Cont of
AU 9732847A	May 16, 1997	1997AU-0032847	
AU 9732847A		WO 9742888	Based on
GB 2325167A	May 16, 1997	1997WO-US08762	
GB 2325167A	May 21, 1998	1998GB-0011004	
GB 2325167A		WO 9742888	Based on
DE 19781097T	May 16, 1997	1997DE-1081097	
DE 19781097T	May 16, 1997	1997WO-US08762	
DE 19781097T		WO 9742888	Based on
GB 2325167B	May 16, 1997	1997WO-US08762	
GB 2325167B	May 21, 1998	1998GB-0011004	
GB 2325167B		WO 9742888	Based on
US 6332871B1	May 17, 1996	1996US-017133P	Provisional
US 6332871B1	May 16, 1997	1997WO-US08762	
US 6332871B1	May 10, 1999	1999US-0180839	
US 6332871B1		WO 9742888	Based on

INT-CL (IPC): A61 B 5/00; A61 B 5/14; A61 B 5/15; A61 B 10/00; A61 B 17/32; A61 B 17/34

RELATED-ACC-NO: 1998-008513;1998-008514 ;1998-008516 ;1998-008517 ;1998-018163 ;1999-560312 ;2002-194549 ;2002-328397

ABSTRACTED-PUB-NO: GB 2325167B
BASIC-ABSTRACT:

A fluid sampling apparatus includes a housing member (1) which contains a lancing needle (16) used for piercing skin together with a spring member (11) for urging the needle to protrude form the housing end sufficient to penetrate the skin. A plunger (14) retracts the needle against the spring tension and a trigger member (2) engages the plunger to hold the needle retracted until released by the trigger.

Stop and adjustment tabs (19) limit the depth of needle penetration of the skin and a sample container communicating with the needle receives the sample from the needle. Secondary springs retract the needle from the skin and a suction cam and plunger (22) activated upon retraction of the needle draws the sample of fluid which accumulates on the surface of the skin into the sample container.

ADVANTAGE - Capable of obtaining a sample of bodily fluid through the skin which is virtually pain free and minimally invasive having a reusable sampler and a disposable sample collection.

ABSTRACTED-PUB-NO: US 6332871B
EQUIVALENT-ABSTRACTS:

A fluid sampling apparatus includes a housing member (1) which contains a lancing needle (16) used for piercing skin together with a spring member (11) for urging the needle to protrude form the housing end sufficient to penetrate the skin. A plunger (14) retracts the needle against the spring tension and a trigger member (2) engages the plunger to hold the needle retracted until released by the trigger.

Stop and adjustment tabs (19) limit the depth of needle penetration of the skin and

a sample container communicating with the needle receives the sample from the needle. Secondary springs retract the needle from the skin and a suction cam and plunger (22) activated upon retraction of the needle draws the sample of fluid which accumulates on the surface of the skin into the sample container.

ADVANTAGE - Capable of obtaining a sample of bodily fluid through the skin which is virtually pain free and minimally invasive having a reusable sampler and a disposable sample collection.

A fluid sampling apparatus includes a housing member (1) which contains a lancing needle (16) used for piercing skin together with a spring member (11) for urging the needle to protrude form the housing end sufficient to penetrate the skin. A plunger (14) retracts the needle against the spring tension and a trigger member (2) engages the plunger to hold the needle retracted until released by the trigger.

Stop and adjustment tabs (19) limit the depth of needle penetration of the skin and a sample container communicating with the needle receives the sample from the needle. Secondary springs retract the needle from the skin and a suction cam and plunger (22) activated upon retraction of the needle draws the sample of fluid which accumulates on the surface of the skin into the sample container.

ADVANTAGE - Capable of obtaining a sample of bodily fluid through the skin which is virtually pain free and minimally invasive having a reusable sampler and a disposable sample collection.

US20020082522A

A fluid sampling apparatus includes a housing member (1) which contains a lancing needle (16) used for piercing skin together with a spring member (11) for urging the needle to protrude form the housing end sufficient to penetrate the skin. A plunger (14) retracts the needle against the spring tension and a trigger member (2) engages the plunger to hold the needle retracted until released by the trigger.

Stop and adjustment tabs (19) limit the depth of needle penetration of the skin and a sample container communicating with the needle receives the sample from the needle. Secondary springs retract the needle from the skin and a suction cam and plunger (22) activated upon retraction of the needle draws the sample of fluid which accumulates on the surface of the skin into the sample container.

ADVANTAGE - Capable of obtaining a sample of bodily fluid through the skin which is virtually pain free and minimally invasive having a reusable sampler and a disposable sample collection.

WO 9742888A

CHOSEN-DRAWING: Dwg.1/22

DERWENT-CLASS: P31 S05
EPI-CODES: S05-C;

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : A61N 1/30	A1	(11) International Publication Number: WO 97/48440
		(43) International Publication Date: 24 December 1997 (24.12.97)

(21) International Application Number: PCT/US97/10516

(22) International Filing Date: 17 June 1997 (17.06.97)

(30) Priority Data:
60/019,990 18 June 1996 (18.06.96) US

(71) Applicant: ALZA CORPORATION [US/US]; 950 Page Mill Road, P.O. Box 10950, Palo Alto, CA 94303-0802 (US).

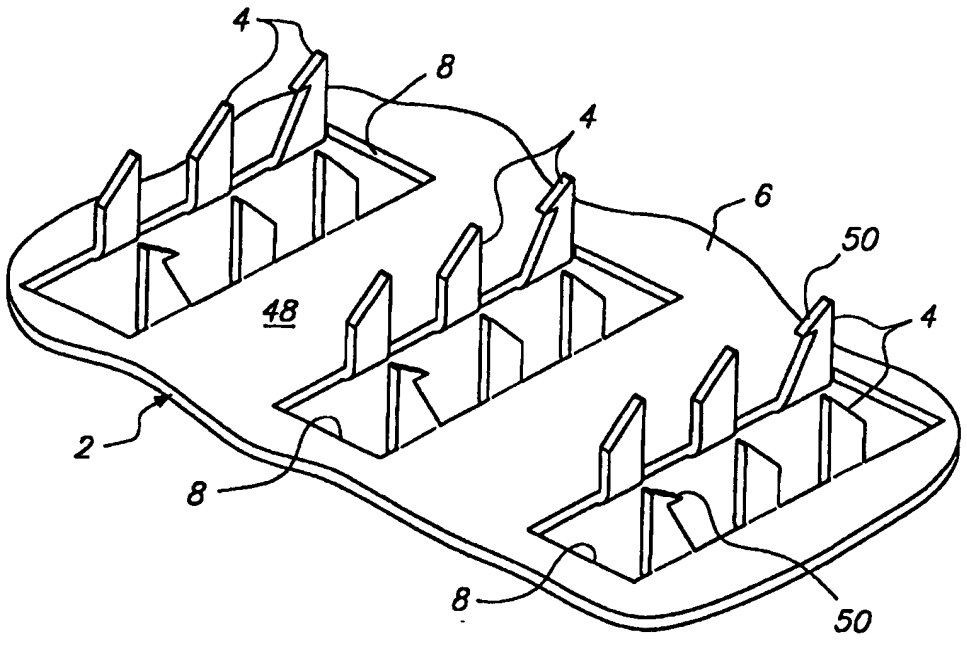
(72) Inventors: CORMIER, Michel, J., N.; 278 Andsbury Avenue, Mountain View, CA 94043 (US). NEUKERMANS, Armand, P.; 3510 Arbutus Avenue, Palo Alto, CA 94303 (US). BLOCK, Barry; 30610 Page Mill Road, Los Altos, CA 94022 (US). THEEUWES, Felix, T.; 27350 Altamont Road, Los Altos, CA 94022 (US). AMKRAUT, Alfred, A.; 3358 Kenneth Drive, Palo Alto, CA 94303 (US).

(74) Agents: MILLER, D., Byron et al.; Alza Corporation, 950 Page Mill Road, P.O. Box 10950, Palo Alto, CA 94303-0802 (US).

(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

Published
With international search report.
Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: DEVICE FOR ENHANCING TRANSDERMAL AGENT DELIVERY OR SAMPLING



(57) Abstract

A percutaneous agent delivery or sampling device (10, 88, 98, 104) comprising a sheet (6) having a plurality of microblades (4) for piercing and anchoring to the skin for increasing transdermal flux of an agent and for improving the attachment of the device (10, 88, 98, 104) to the skin. The device comprises a sheet (6) having at least one opening (8) therethrough and a plurality of blades (4) extending downward therefrom, and an anchoring means for anchoring the device (2) to the body surface.

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L16: Entry 1 of 2 File: EPAB Dec 24, 1997

PUB-NO: WO0009748440A1
DOCUMENT-IDENTIFIER: WO 9748440 A1
TITLE: DEVICE FOR ENHANCING TRANSDERMAL AGENT DELIVERY OR SAMPLING

PUBN-DATE: December 24, 1997

INVENTOR-INFORMATION:

NAME	COUNTRY
CORMIER, MICHEL J N	
NEUKERMANS, ARMAND P	
BLOCK, BARRY	
THEEUWES, FELIX T	
AMKRAUT, ALFRED A	

ASSIGNEE-INFORMATION:

NAME	COUNTRY
ALZA CORP	US

APPL-NO: US09710516
APPL-DATE: June 17, 1997

PRIORITY-DATA: US01999096P (June 18, 1996)

INT-CL (IPC): A61 N 1/30
EUR-CL (EPC): A61N001/30; A61N001/30, A61M037/00

ABSTRACT:

CHG DATE=19990617 STATUS=O>A percutaneous agent delivery or sampling device (10, 88, 98, 104) comprising a sheet (6) having a plurality of microblades (4) for piercing and anchoring to the skin for increasing transdermal flux of an agent and for improving the attachment of the device (10, 88, 98, 104) to the skin. The device comprises a sheet (6) having at least one opening (8) therethrough and a plurality of blades (4) extending downward therefrom, and an anchoring means for anchoring the device (2) to the body surface.